



ROOM AIR CONDITIONER

INDOOR UNIT

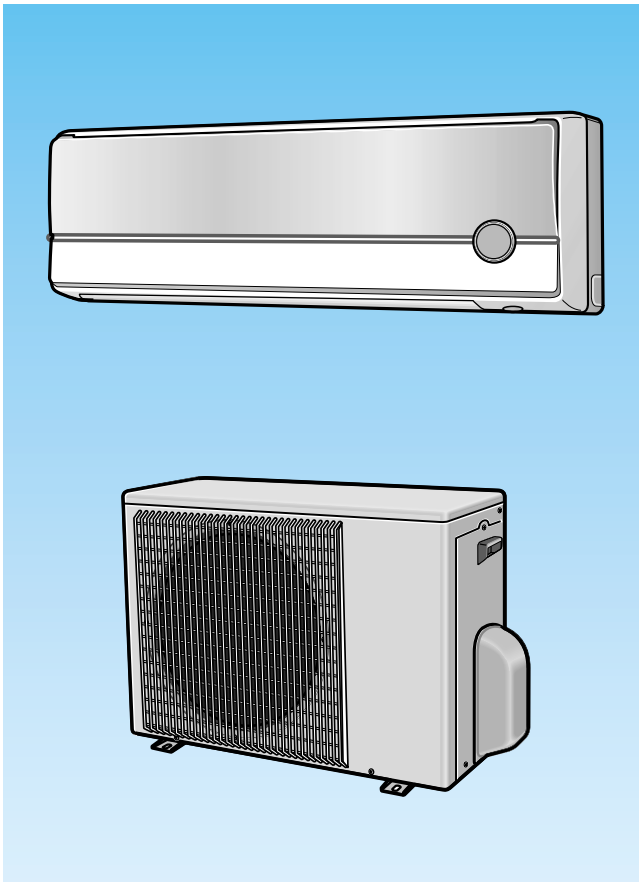
AQ12PGGE
AQ12PBGE
SH12ZPG
SH12ZPGA
AQ09P8GE
AQ09PBGE
SH09ZPG
SH09ZPGA
AQ07P8GE
AQ07PBGE
SH07ZPG
SH07ZPGA

OUTDOOR UNIT

UQ12PGGE
UQ12PBGE
SH12ZPGX
SH12ZPGAX
UQ09P8GE
UQ09PBGE
SH09ZPGX
SH09ZPGAX
UQ07P8GE
UQ07PBGE
SH07ZPGX
SH07ZPGAX

SERVICE Manual

AIR CONDITIONER



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1. Product Specifications

1-1 Table

Item				Model	AQ12PGGE		AQ12PBGE	
				Indoor unit	Outdoor unit	Indoor unit	Outdoor unit	
Type				Wall-mounted		Wall-mounted		
Performance	Cooling			12,000BTU/h		12,000BTU/h		
	Heating		-	13,000BTU/h		13,000BTU/h		
	Dehumidifying		ℓ/h	1.9		1.9		
	Air volume	Cooling	m³/min	8.0	24	8.0	24	
		Heating		8.6	24	8.6	24	
	Noise	Cooling	dB	40	50	40	50	
		Heating		40	50	40	50	
	Energy efficiency ratio	Cooling	W/W	2.97		2.97		
		Heating		3.25		3.30		
Power		V-Hz	1-220 / 240-50		1-220 / 240-50			
Power	Power Consumption	Cooling	W	1180		1180		
		Heating		1170		1150		
	Operating Current	Cooling	A	5.3		5.2		
		Heating		5.1		6.1		
	Power factor	Cooling	%	96.8		98.7		
		Heating		99.7		98.0		
	Starting current		A	32.0		32.0		
	Power cord	Length	m	-		-		
		Number of core wire		-		-		
Capacity		A	250V-10 / 16A		250V-10 / 16A			
Size	Outer Dimension	Width x Height x Depth	mm	890x285x179	695x530x280	890x285x179	740x530x230	
			inch	35.0x11.2x7.0	27.4x20.9x11.0	35.0x11.2x7.0	29.1x20.9x9.1	
	Weight		kg	8.5	33.0	8.5	35.0	
	Refrigerant pipe	Liquid	mm x L(MT)	ø6.35 x 5		ø6.35 x 5		
		GAS	mm x L(MT)	ø12.7 x 5		ø12.7 x 5		
	Drain hose		D x L(mm)	ø18 x 2000		ø18 x 2000		
	Compressor	Type		Rotary		Rotary		
		Motor	Type	-	-	-	-	
			Rated output	-	-	-	-	
	Blower	Type		Cross-flow	Propeller	Cross-flow	Propeller	
		Motor	Type	steel	steel	steel	steel	
			Rated output	W	15	25	15	25
	Heat exchanger				2ROW 12STEP	1ROW 20STEP	2ROW 12STEP	2ROW 24STEP
Refrigerant control unit				CAPILLARY TUBE		CAPILLARY TUBE		
Freezer oil capacity			cc	600		600		
Refrigerant to change(R-22)			g	820		910		
Protection device(OLP)				RAC 12074-9622		RAC 12074-9622		
Cooling test Condition				INDOOR UNIT : DB27℃ WB19℃		OUTDOOR UNIT : DB35℃ WB24℃		
Maximum operation Condition				INDOOR UNIT : DB32℃ WB23℃		OUTDOOR UNIT : DB43℃ WB26℃		

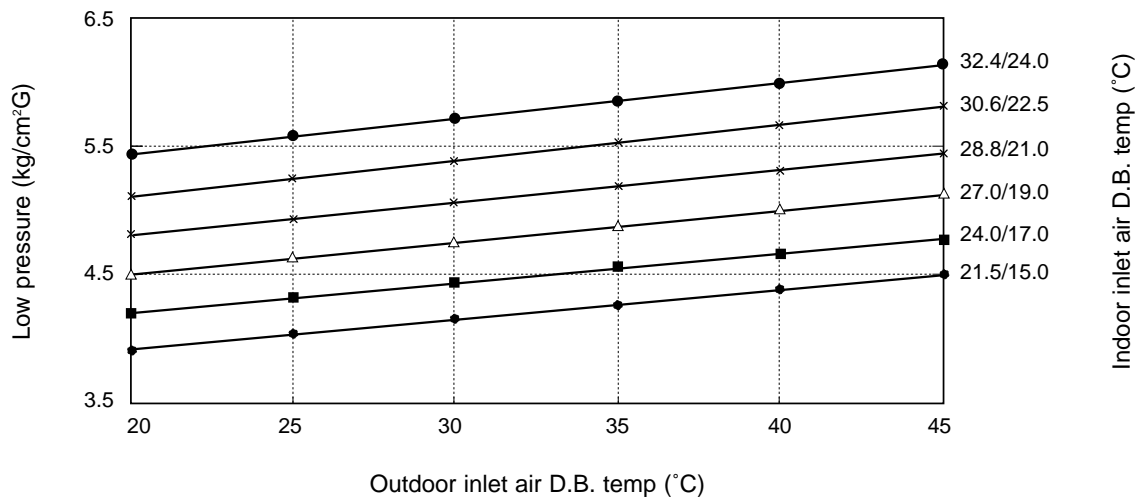
Table(Cont.)

Item				Model	SH12ZPG SH12ZPGA		AQ09P8GE		AQ09PBGE	
					Indoor unit	Outdoor unit	Indoor unit	Outdoor unit	Indoor unit	Outdoor unit
Type				Wall-mounted		Wall-mounted		Wall-mounted		
Performance	Cooling () : RUSSIA, CIS		-	3.5kW (11,990)BTU/h		9,200BTU/h		9,000BTU/h		
	Heating () : RUSSIA, CIS		-	3.8kW (11,990)BYU/h		10,000BTU/h		10,000BTU/h		
	Dehumidifying		ℓ/h	1.9		1.4		1.4		
	Air volume	Cooling	m³/min	8.2	24	6.4	19	6.4	24	
		Heating		9.1	24	7.0	19	7.0	24	
	Noise () : EUROVENT	Cooling	dB	42(53)	50(63)	38	48	38	48	
		Heating		42(53)	50(63)	38	48	38	48	
	Energy efficiency ratio	Cooling	W/W	3.21		2.81		2.74		
		Heating		3.41		3.22		3.22		
	Power		V-Hz	1-220 / 240-50		1-220 / 240-50		1-220 / 240-50		
Power	Power Consumption	Cooling	W	1090		960		950		
		Heating		1115		900		900		
	Operating Current	Cooling	A	5.0		4.4		4.2		
		Heating		5.0		4.0		4.1		
	Power factor	Cooling	%	94.8		94.9		98.3		
		Heating		97.0		97.8		95.4		
	Starting current		A	32.0		21.0		21.0		
	Power cord	Length	m	-		-		-		
		Number of core wire		-		-		-		
		Capacity	A	250V-10 / 16A		250V-10 / 16A		250V-10 / 16A		
Size	Outer Dimension	Width x Height	mm	890x285x179	695x530x280	795x258x179	660x475x242	795x258x179	740x530x230	
		x Depth	inch	35.0x11.2x7.0	27.4x20.9x11.0	31.3x10.2x7.0	26.0x18.7x9.5	31.3x10.2x7.0	29.1x20.9x9.1	
	Weight		kg	8.5	33.0	7.5	26.3	7.5	26.5	
	Refrigerant pipe	Liquid	mm x L(MT)	ø6.35 x 5		ø6.35 x 5		ø6.35 x 5		
		GAS	mm x L(MT)	ø12.7 x 5		ø9.52 x 5		ø9.52 x 5		
	Drain hose		D x L(mm)	ø18 x 2000		ø18 x 2000		ø18 x 2000		
	Compressor	Type		Rotary		Rotary		Rotary		
		Motor	Type	-	-	-	-	-	-	
			Rated output	-	-	-	-	-	-	
	Blower	Type		Cross-flow	Propeller	Cross-flow	Propeller	Cross-flow	Propeller	
		Motor	Type	steel	steel	steel	steel	steel	steel	
			Rated output	W	15	25	11	20	11	25
Heat exchanger				2ROW 12STEP	2ROW 24STEP	2ROW 10STEP	1ROW 18STEP	2ROW 10STEP	1ROW 24STEP	
Refrigerant control unit				CAPILLARY TUBE		CAPILLARY TUBE		CAPILLARY TUBE		
Freezer oil capacity			cc	410		360		360		
Refrigerant to change(R-22)			g	980		660		580		
Protection device(OLP)				RAC 12123-9622		RAC 12110-9622		RAC 12110-9622		
Cooling test Condition				INDOOR UNIT : DB27℃ WB19℃		OUTDOOR UNIT : DB35℃ WB24℃				
Maximum operation Condition				INDOOR UNIT : DB32℃ WB23℃		OUTDOOR UNIT : DB43℃ WB26℃				

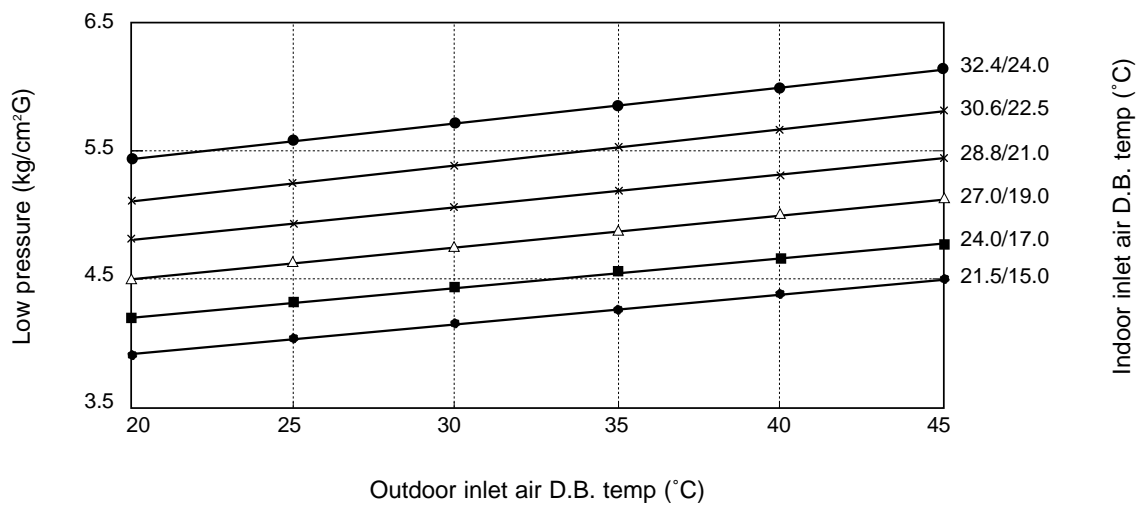
SH09ZPG SH09ZPGA		AQ07P8GE		AQ07PBGE		SH07ZPG SH07ZPGA	
Indoor unit	Outdoor unit	Indoor unit	Outdoor unit	Indoor unit	Outdoor unit	Indoor unit	Outdoor unit
Wall-mounted		Wall-mounted		Wall-mounted		Wall-mounted	
2.6kW		7,500BTU/h		7,800BTU/h		2.3kW	
(8,990)BTU/h						(7,500)BTU/h	
2.9kW		8,000BTU/h		8,200BTU/h		2.4kW	
(8,990)BTU/h						(8,200)BTU/h	
1.4		0.9		0.9		0.9	
6.6	24	6.2	19	6.2	24	6.2	24
7.1	24	6.2	19	6.2	24	6.5	24
39(50)	48(58)	36	47	36	47	36(47)	47(47)
39(50)	48(58)	36	47	36	47	36(57)	47(57)
3.21		2.86		3.07		3.22	
3.33		3.29		3.43		3.43	
1-220 / 240-50		1-220 / 240-50		1-220 / 240-50		1-220 / 240-50	
810		770		750		715	
870		700		700		700	
3.7		3.3		3.3		3.2	
3.9		3.1		3.1		3.2	
95.2		99.9		98.8		97.1	
97.0		98.2		98.2		95.1	
21.0		18.0		17.0		18.0	
-		-		-		-	
-		-		-		-	
250V-10 / 16A		250V-10 / 16A		250V-10 / 16A		250V-10 / 16A	
795x258x179	695x530x280	795x258x179	660x475x242	795x258x179	740x530x230	795x258x179	695x530x280
31.3x10.2x7.0	27.4x20.9x11.0	31.3x10.2x7.0	26.0x18.7x9.5	31.3x10.2x7.0	29.1x20.9x9.1	31.3x10.2x7.0	27.4x20.9x11.0
7.5	28.0	7.5	25.6	7.5	26.1	7.5	27.5
ø6.35 x 5		ø6.35 x 5		ø6.35 x 5		ø6.35 x 5	
ø9.52 x 5		ø9.52 x 5		ø9.52 x 5		ø9.52 x 5	
ø18 x 2000		ø18 x 2000		ø18 x 2000		ø18 x 2000	
Rotary		Rotary		Rotary		Rotary	
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
Cross-flow	Propeller	Cross-flow	Propeller	Cross-flow	Propeller	Cross-flow	Propeller
steel	steel	steel	steel	steel	steel	steel	steel
11	25	11	20	11	20	11	25
2ROW 10STEP	1ROW 20STEP	2ROW 10STEP	1ROW 18STEP	2ROW 10STEP	1ROW 18STEP	2ROW 10STEP	1ROW 20STEP
CAPILLARY TUBE		CAPILLARY TUBE		CAPILLARY TUBE		CAPILLARY TUBE	
360		360		360		360	
740		620		640		700	
RAC 12054-9622		RAC 12144-9622		RAC 12144-9622		RAC 12144-9622	
INDOOR UNIT : DB27°C WB19°C				OUTDOOR UNIT : DB35°C WB24°C			
INDOOR UNIT : DB32°C WB23°C				OUTDOOR UNIT : DB43°C WB26°C			

1-2 Pressure Graph

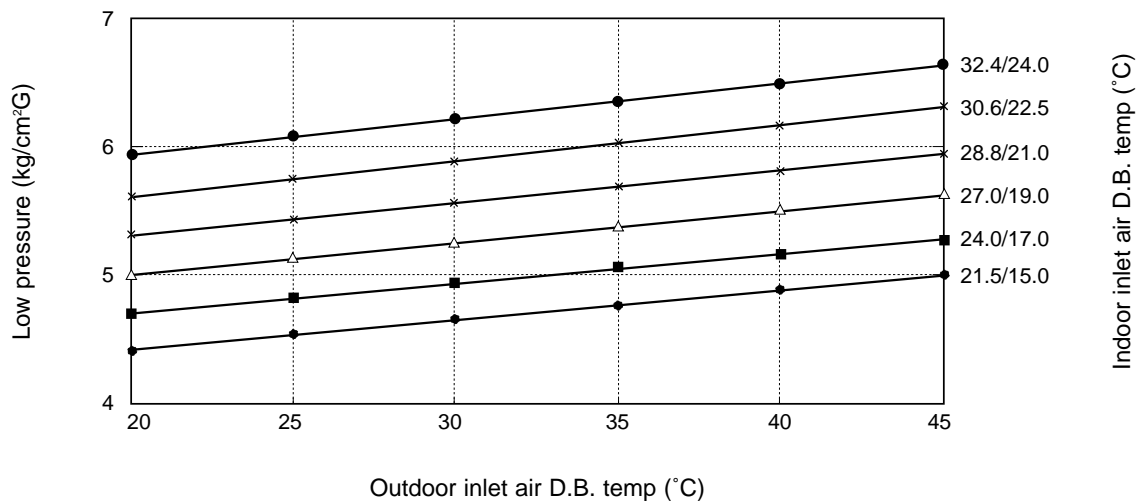
■ 12K BTU



■ 9K BTU








































■ 7K BTU



2. Operating Instructions

2-1 The Feature of Key in remote control

NO	NAMED OF KEY	FUNCTION OF KEY
1	 (On/Off)	On/Off button. Press the  button to stop or run the air conditioner.
2	 (UP)	Temperature adjustment button(UP). To increase the temperature by the pressing the temperature button.
	 (DOWN)	Temperature adjustment button(DOWN). To decrease the temperature by the pressing the temperature button.
3	Mode 	Mode selection button. Each time you press this button Mode is changed in the following order <div style="display: flex; align-items: center;">  →  →  →  →  </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div>  : Auto Mode  : Cool Mode  : Dry Mode </div> <div>  : Fan Only  : Heat Mode </div> </div>
4		Fan speed adjustment button. Each time you press this button, FAN SPEED is changed in the following order. <div style="display: flex; align-items: center; margin-top: 10px;"> Low → Medium → High →  Automatic(rotated :  →  →  → ) </div>
5		Swing button. It adjusts the airflow to upward and downward.
6		Turbo button. The air conditioner cools or heats the room as quickly as possible. After 30minutes, the air conditioner is reset automatically to the previous mode.
7		Energy saving button. If you wish to save energy when using your air conditioner, select the Energy saving mode with the  button.
8		Sleep button. The sleep timer can be used when you are cooling or heating your room to switch the air conditioner off automatically after a period of six hours.

NO	NAMED OF KEY	FUNCTION OF KEY
9		Anion button. Press the  button to generate ion from the air conditioner.
10		On Timer button. The On Timer enables you to switch on the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the  button one or more times until the required time display.
11		Off Timer button. The Off Timer enables you to switch off the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the  button one or more times until the required time display.
12		Timer Set/Cancel button. After setting On Timer or Off Timer, press the  button to set it completely. And press the  button again to cancel On Timer or Off Timer set.
13		Digital <i>i</i> On/Off button. If you want to turn off the display during operation press the  button.

2-1-1 Name & Function of Key in remote control

1. **AUTO MODE** : In this mode, operation mode(COOL, HEAT) is selected automatically by the room temperature of initial operation.

Room Temp	Operation Type
$T_r \geq 21^{\circ}\text{C} + \Delta T$	Cool Operation (Set Temp: $24^{\circ}\text{C} + \Delta T$)
$21^{\circ}\text{C} + \Delta T > T_r$	Heat Operation (Set Temp: $22^{\circ}\text{C} + \Delta T$)

$\Delta T = -1^{\circ}\text{C}, -2^{\circ}\text{C}, 0^{\circ}\text{C}, +1^{\circ}\text{C}, +2^{\circ}\text{C}$

ΔT is controlled by setting temperature up/down key of remote control

2. **COOL MODE** : The unit operates according to the difference between the setting and room temperature. ($18^{\circ}\text{C} \sim 30^{\circ}\text{C}$)
3. **HEAT MODE** : The unit operates according to the difference between the setting and room temperature. ($16^{\circ}\text{C} \sim 30^{\circ}\text{C}$)
 - *Prevention against cold wind : In order to prevent the cool air from flowing out at the heat mode, the indoor fan does not operate or operates very slowly in the following cases. At this time, the indoor heat exchanger will be preheating.
 - For 3~5 minutes after the initial operation
 - For deicing operation
 - The operation of an indoor fan in accordance with the temperature of an indoor heat exchanger

The temperature of indoor heat exchanger	Indoor fan speed
below 28°C	off
28°C ~below 34°C	LL Speed
34°C ~below 40°C	L Speed
above 40°C	Setting Speed

*High temperature release function : It is a function to detect an outdoor overload by the sensor of an indoor heat exchanger and to turn the outdoor fan or the compressor ON/OFF for safety.

*Deice : Deicing operation is controlled by indoor unit's heat exchanger temperature and accumulating time of compressor's operation.

Deice ends by sensing of the processing time by deice condition.

4. **DRY MODE** : Has 3 states, each determined by room temperature.
The unit operates in DRY mode.
*Compressor ON/OFF Time is controlled compulsorily (can not set up the fan speed, always breeze).
*Protective function : Low temperature release. (Prevention against freeze)
5. **TURBO MODE** : This mode is available in AUTO, COOL, HEAT, DRY, FAN MODE.
When this button is pressed at first, the air conditioner is operated "powerful" state for 30 minutes regardless of the set temperature, room temperature.
When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
*But, if you press the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.
6. **SLEEP MODE** : Sleep mode is available only in COOL or HEAT mode.
The operation will stop after 6 hours.
*In COOL mode : The setting temperature is automatically raised by 1°C each 1 hour
When the temperature has been raised by total of 2°C , that temperature is maintained.
*In HEAT mode : The setting temperature is automatically dropped by 1°C each 1 hour.
When the temperature has been dropped by total of 2°C , that temperature is maintained.




7. **FAN SPEED** : Manual (3 step), Auto (4 step)
Fan speed automatically varies depending on both the difference between setting and the room temperature.

8. **COMPULSORY OPERATION** :
For operating the air conditioner without the remote control.

*The air conditioner starts up in the most suitable mode for the room temperature:

Room Temperature	Operating Mode	Temperature Setting
Less than 21°C	Heat	22°C approx.
21°C or above	Cool	24°C approx.

9. **SWING** : BLADE-H is rotated vertically by the stepping motor.

*Swing Set : Press the  button under the remote control is displayed on LCD the  and the blades move up and down. If the one more time press the  button, blades location is stop.

10. **SETTING THE ON/OFF TIMER** :

*ON TIMER : The On Timer enables you to switch on the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.

*OFF TIMER : The Off Timer enables you to switch off the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.

11. **GENERATING ANION** :

The air conditioner can generate anion with an ionizer in the indoor unit.

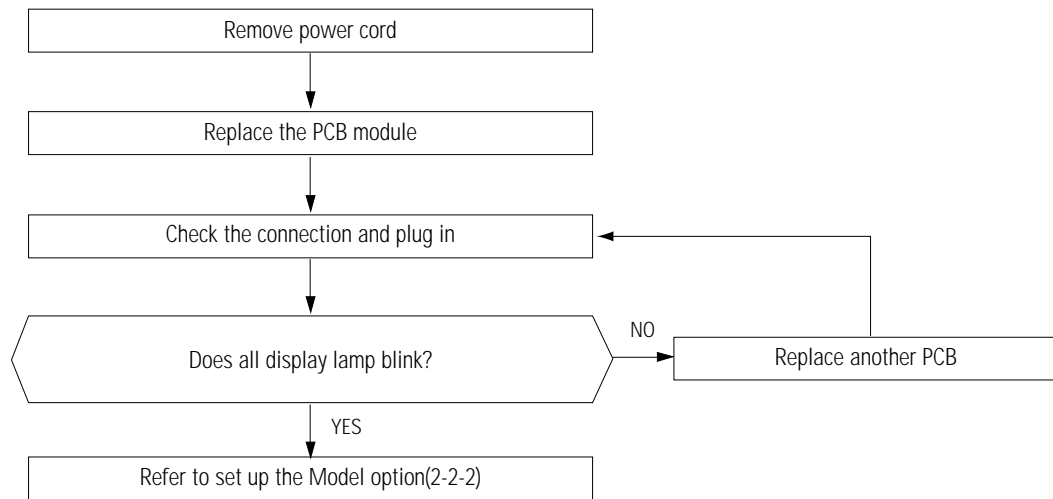
12. SELF DIAGNOSIS

Error Mode	DISPLAY 7-SEGMENT		Remark
	Operation Off	Operation On	
Indoor unit room temperature sensor error (open or short)	OFF	E1	
Indoor unit heat exchanger temperature sensor error(open or short)	OFF	E2	
Indoor FAN MOTOR error : Keep the RPM value 450 below for 15 seconds	OFF	E3	
EEPROM error	OFF	E6	
Error in option In case of No option set-up In case of option data error	All lamp blinking	All lamp blinking	

13. **BUZZER SOUND** : Whenever the On/Off button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

2-2 Replace PCB Model option

2-2-1 Replace PCB model option



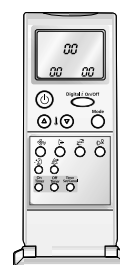
2-2-2 Set up the Model option

The Method for Setting up the model option with remocon

- **It is necessary to set up option code after replacing the main-PCB as a service parts.**
Make sure that you can set up the option of code the remote controller after you replace the main PBA otherwise, the unit won't be working properly and all LED lamps on display will be flickering.

Step 1 : Preparing the remocon to main PCB option set

- 1st Remove the battery from the remocon.
- 2nd Press the temperature raise/down button simultaneously and insert the battery again.
- 3rd Make sure the remocon display shown as .



Step 2 : Second stage preparation of the remocon option set.

※ **Note** ; In case the wrong letter has been selected, continue to press the button until the correct letter appears.

- 1st If the first stage number " " appears on the display, proceed to the second stage.
- 2nd Every time the and button, " " and " " each continue to appear.
- 3rd Whenever pressing the , , , , , , , , , button, the number increase from 0~9(0123456789) and A, b, C, d, E, F each time.

① If the first number is , it is correct otherwise press until appear.

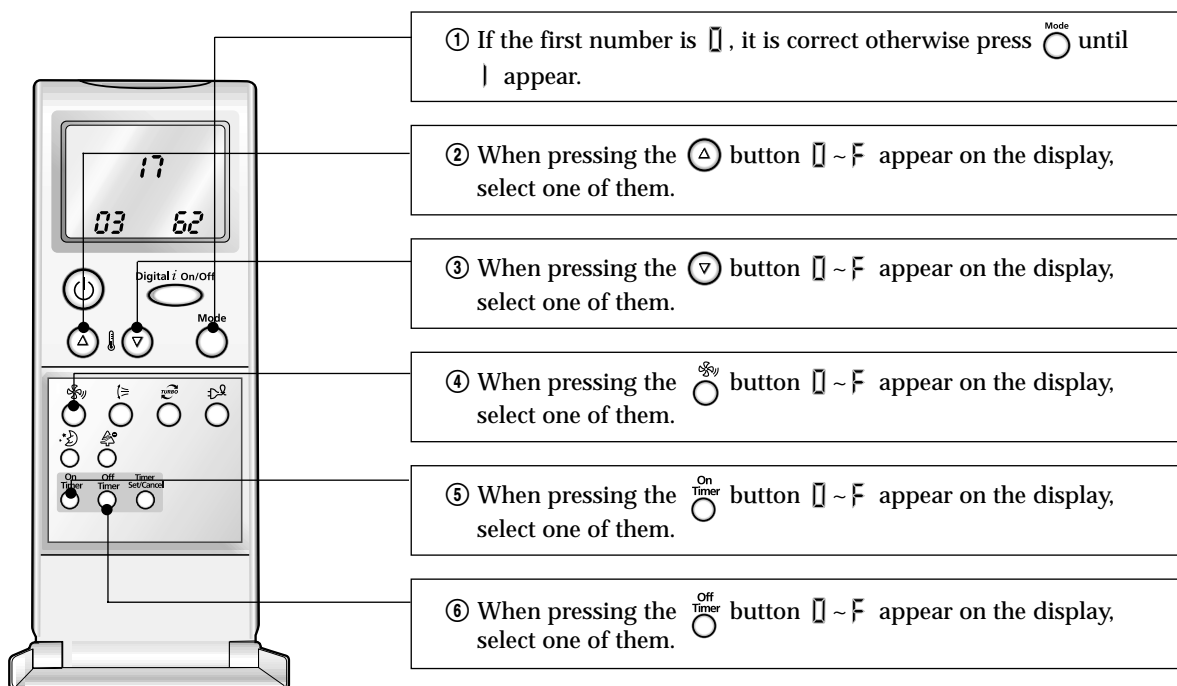
② When pressing the button ~ appear on the display, select one of them.

③ When pressing the button ~ appear on the display, select one of them.

④ When pressing the button ~ appear on the display, select one of them.

⑤ When pressing the button ~ appear on the display, select one of them.

⑥ When pressing the button ~ appear on the display, select one of them.



Step 3 : Reconfirming option set after completion

(in case of ex. 067066-170362)

After pressing Mode selector for the \square mode, the display shown as 06 70 66 .

After pressing Mode selector for the $|$ mode, the display shown as 17 03 62 .

Step 4 : Pressing the ON/OFF button (⏻)

When pressing the operation ON/OFF key with the direction of remote controller for unit, the sound “Ding” or “Diriring” is heard and the OPERATION ICON(\approx) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn’t heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote controller.

Second, Re-insert the battery into the remote controller.

Third, Press ON/OFF key with the direction of remote controller for set.

• Error Mode

- 1st If all lamps of indoor unit are flickering, Plug out and plug in again and pressing ON/OFF key to retry.
- 2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for it's model.



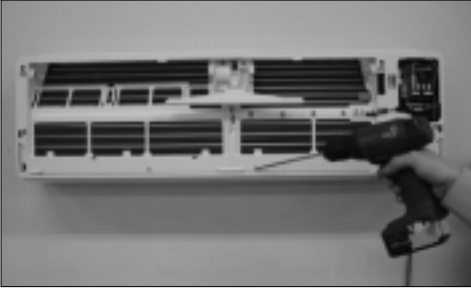
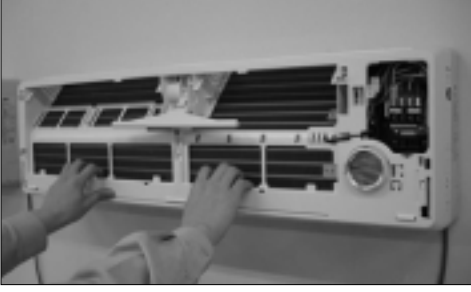

■ OPTION ITEMS

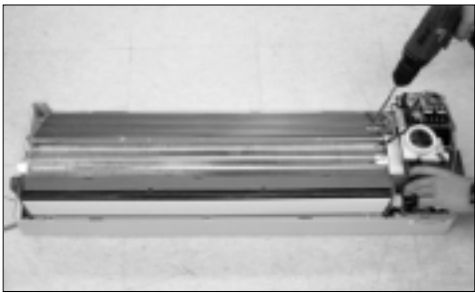

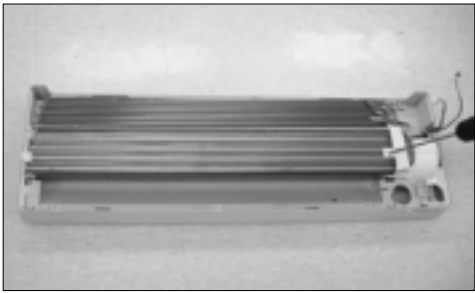

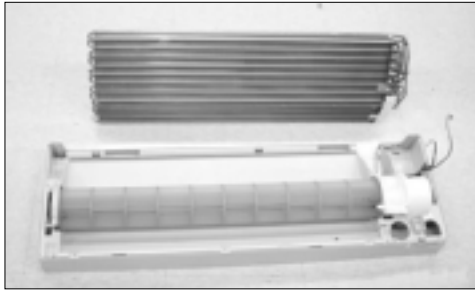
<div>REMOCON</div> <div>MODEL</div>	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
SH12ZPG SH12ZPGA	0	6	7	0	6	6	1	7	0	3	6	2
SH09ZPG SH09ZPGA	0	2	6	5	6	6	1	7	0	3	4	0
SH07ZPG SH07ZPGA	0	2	6	0	6	5	1	7	0	2	2	E
AQ12PGGE AQ12PBGE	0	6	7	0	6	5	1	7	0	3	6	2
AQ09P8GE	0	2	6	0	6	4	1	7	0	3	4	0
AQ09PBGE	0	2	6	0	6	5	1	7	0	3	4	0
AQ07P8GE	0	2	6	0	6	4	1	7	0	2	2	E
AQ07PBGE	0	2	6	0	6	5	1	7	0	2	2	E

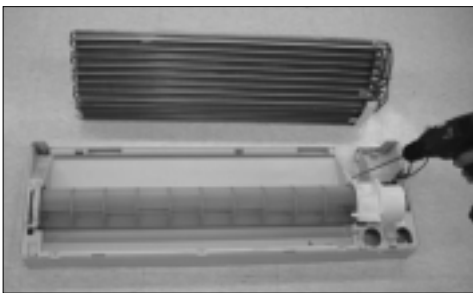

3. Disassembly and Reassembly

Stop operation of the air conditioner and remove the power cord before repairing the unit.

3-1 Indoor Unit


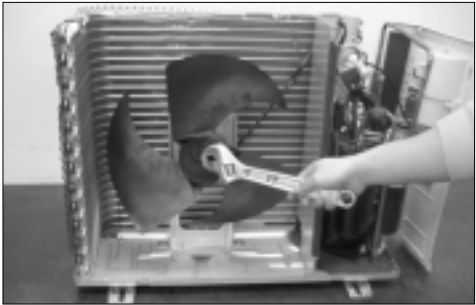


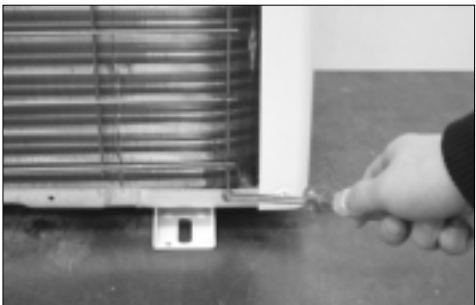
No	Parts	Procedure	Remark
1	Front Panel	<p>1) Stop the air conditioner operation and block the main power.</p> <p>2) Separate tape of front panel upper.</p> <p>3) Slide the lower front grille down, then disassemble it by pulling it forwards.</p> <p>4) Open the upper front grille by pulling right and left sides of the grille.</p> <p>5) Take the left and right filter out.</p> <p>6) Loosen one of the right screw and separate the terminal cover.</p> <p>7) Separate the thermistor from the front grille.</p> <p>8) Loosen 5 fixing screws of front grille.</p> <p>9) Pull the lower left and right of discharge softly for the outside cover to be pulled out.</p> <p>10) In order to disassemble the panel grille, press, in order, the left, center, and right of the upper side of the panel grille with the palm of the hand to remove the hook. And then disassemble the panel grille.</p>	    






No	Parts	Procedure	Remark
2	Electrical Parts (Main PCB)	1) Do "1", above. 2) Take all the connector of PCB upper side out. (Including Power cord) 3) Separate the outdoor unit connection wire from the terminal block. 4) If pulling the Main PCB up. it will be taken out.	
3	Ass'y Tray Drain.	1) Do "1", "2", above. 2) Separate the drain hose from the extension drain hose. 3) Pull tray drain out from the back body.	
4	Heat Exchanger	1) Do "1", "2", "3", above. 2) Loosen 2 fixing earth screws of right side. 3) Separate the connection pipe. 4) Separate the holder pipe at the rear side. 5) Loosen 3 fixing screws of right and left side. 6) Separate the heat exchanger from the indoor unit.	  

No	Parts	Procedure	Remark
5	Fan Motor and Cross Fan	<ol style="list-style-type: none">1) Do "1", "2", "3", "4", above.2) Loosen 2 fixing screws and separate the motor holder.3) Loosen 1 fixing screw of fan motor. (M3 wrench)4) Separate the fan motor from the fan.5) Separate the fan from the left holder bearing.	 


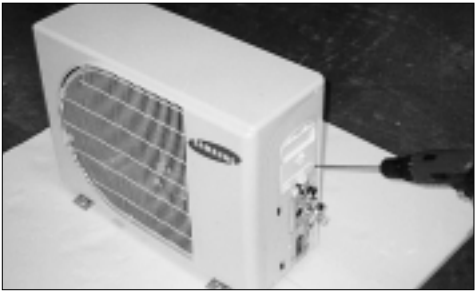
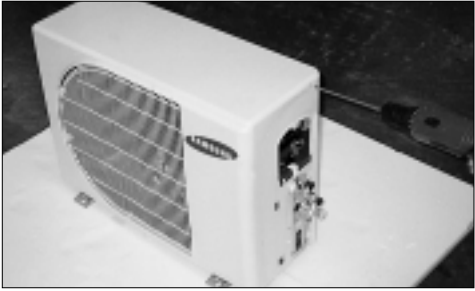

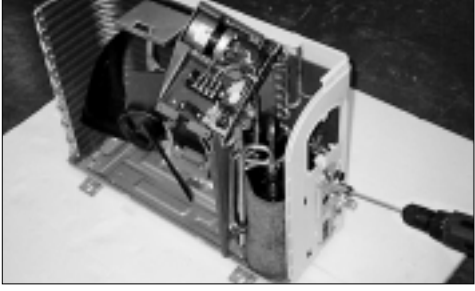
3-2 Outdoor Unit






■ AQ12PGGE / SH12ZPG / SH12ZPGA / SH09ZPG / SH09ZPGA / SH07ZPG / SH07ZPGA

No	Parts	Procedure	Remark
1	Common Work	<p>1) Loosen 2 fixing screws and separate the cover valve.</p> <p>2) Separate the connection wire from the terminal block.</p> <p>3) Loosen 4 fixing screws and separate the cabi front.</p> <p>4) Loosen 2 fixing screws and separate the cabi side LF.</p> <p>5) Loosen 2 fixing screws of the cabi side RH.</p> <p>6) Loosen 2 fixing screws and separate the bar steel.</p>	    






No	Parts	Procedure	Remark
2	Fan and Motor	1) Do "1", above. 2) Separate the connection wire of the motor fan. 3) Remove the nut flange. (Turn to the right to remove, as it is a left hand screw) 4) Separate the fan. 5) Loosen 4 fixing screws to separate the motor. 6) Loosen 4 fixing screws and separate the motor bracket from the base.	  
3	Heat Exchanger	1) Do "1","2", above. 2) Loosen 2 fixing screws of left and right side. 3) Disassemble the inlet and outlet pipe by welding. 4) Separate the heat exchanger.	
4	Compressor	1) Do "1","2","3", above. 2) Open the terminal cover of compressor and unscrew the connection terminal. 3) Disassemble the inlet and outlet pipe of compressor by welding. 4) Loosen 3 fixing bolts of the lower part. 5) Separate the compressor.	




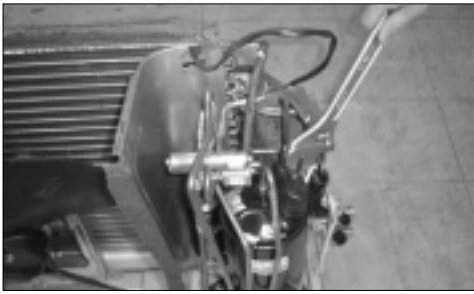

■ AQ09P8GE / AQ07P8GE

No	Parts	Procedure	Remark
1	Common Work	<p>1) Loosen 2 fixing screws and separate the cover terminal.</p> <p>2) Loosen 2 fixing screws and separate the cover control.</p> <p>3) Separate the connection wire from the terminal block.</p> <p>4) Loosen 6 fixing screws and separate the cabi front.</p> <p>5) Loosen 1 fixing screw of assy E-part.</p> <p>6) Loosen 12 fixing screws and separate the cabi side.</p>	    

No	Parts	Procedure	Remark
2	Fan and Motor	<ol style="list-style-type: none"> 1) Do "1", above. 2) Remove the nut flange (Turn to the right to remove, as it is a left hand screw) 3) Separate the fan. 4) Loosen 4 fixing screws to separate the motor. 5) Loosen 2 fixing screws and separate the motor bracket from the base. 	 
3	Heat Exchanger	<ol style="list-style-type: none"> 1) Do "1", "2", above. 2) Loosen 2 fixing screws of left and right side. 3) Disassemble the inlet and outlet pipe by welding. 4) Separate the heat exchanger. 	
4	Compressor	<ol style="list-style-type: none"> 1) Do "1", "2", "3", above. 2) Open the terminal cover of compressor and unscrew the connection terminal. 3) Disassemble the inlet and outlet pipe of compressor by welding. 4) Loosen 3 bolts of the lower part. 5) Separate the compressor. 	 

■ AQ12PBGE / AQ09PBGE / AQ07PBGE

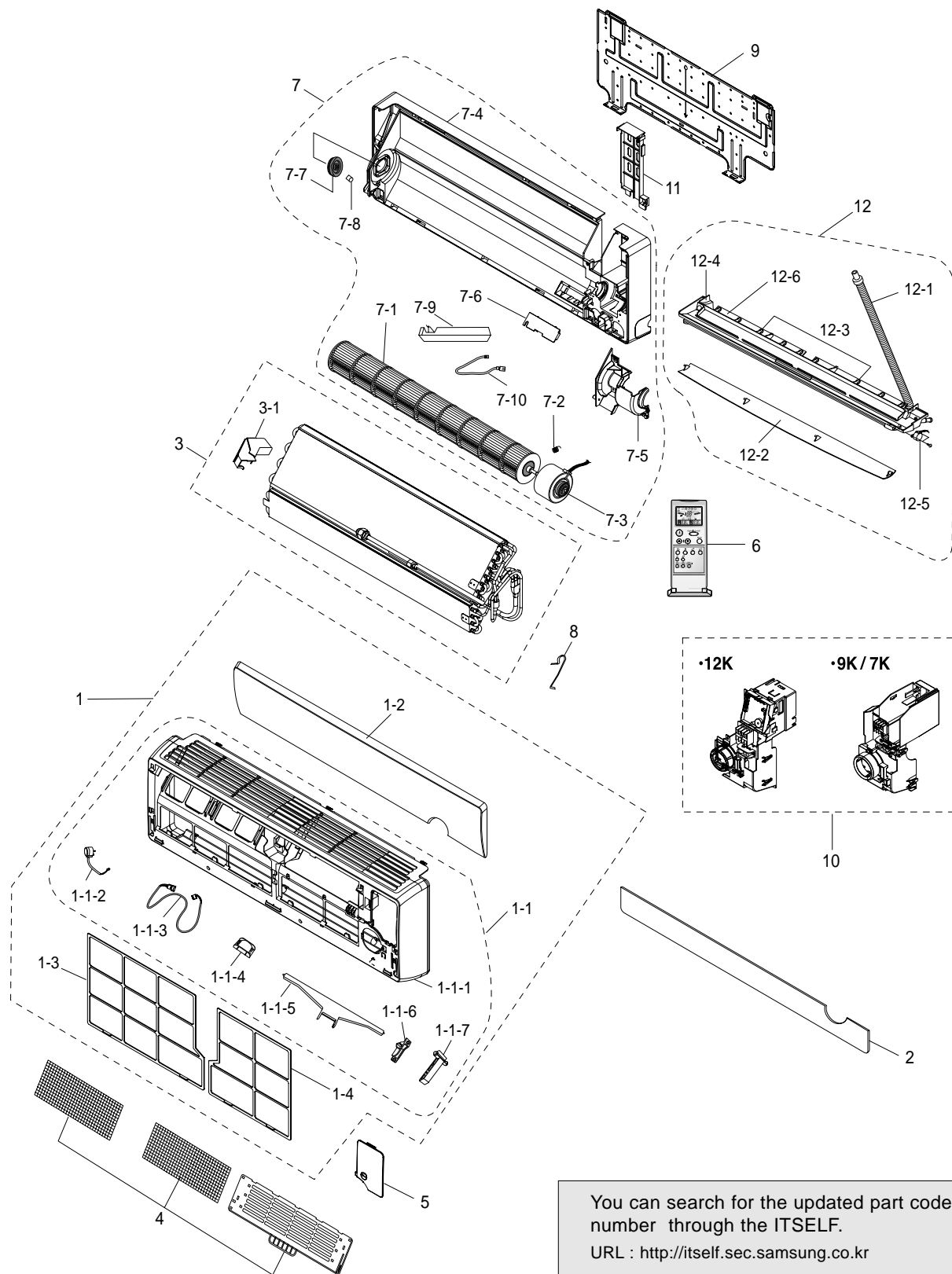
No	Parts	Procedure	Remark
1	Common Work	<p>1) Loosen 1 fixing screw and separate the cover terminal.</p> <p>2) Loosen 1 fixing screw and separate the cover control.</p> <p>3) Separate the connection wire from the terminal block.</p> <p>4) Loosen 13 fixing screws and separate the cabi front.</p> <p>5) Loosen 1 fixing screw of Ass'y E-part.</p> <p>6) Loosen 4 fixing screws and separate the cabi side.</p>	    

No	Parts	Procedure	Remark
2	Fan and Motor	<ol style="list-style-type: none"> 1) Do "1", above. 2) Remove the nut flange (Turn to the right to remove, as it is a left hand screw). 3) Separate the fan. 4) Loosen 4 fixing screws to separate the motor. 5) Loosen 5 fixing screws and separate the motor bracket from the base. 	 
3	Heat Exchanger	<ol style="list-style-type: none"> 1) Do "1", "2", above. 2) Loosen 2 fixing screws of left and right side. 3) Disassemble the inlet and outlet pipe by welding. 4) Separate the heat exchanger. 	
4	Compressor	<ol style="list-style-type: none"> 1) Do "1", "2", "3", above. 2) Open the terminal cover of compressor and unscrew the connection terminal. 3) Disassemble the inlet and outlet pipe of compressor by welding. 4) Loosen 3 bolts of the lower part. 5) Separate the compressor. 	 

MEMO

4. Exploded Views and Parts List

4-1 Indoor Unit



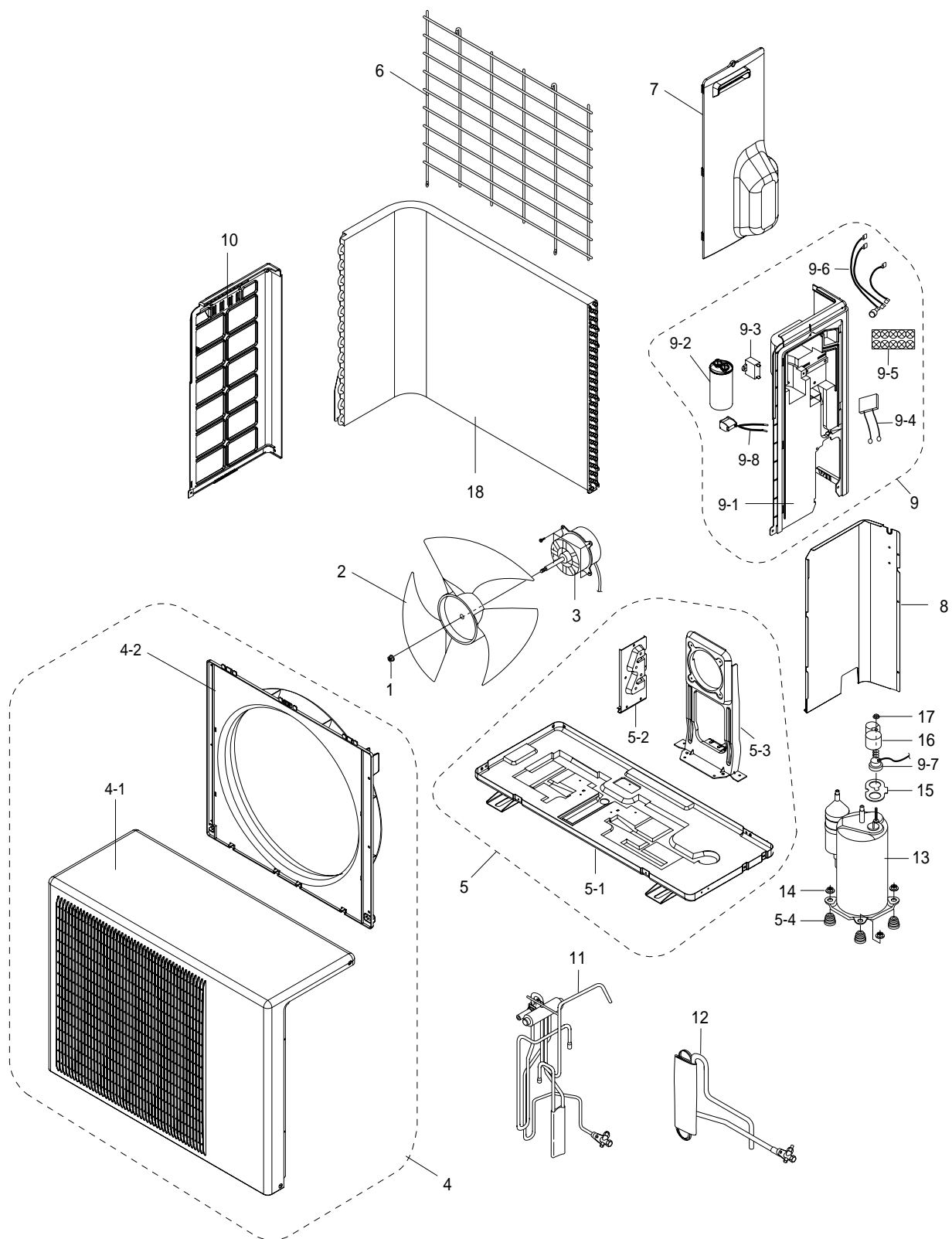
■ Indoor Unit Parts List

No.	Code No.	Description	Specification	Q'TY				Remark
				AQ12PGGE AQ12PBGE	SH12ZPG SH12ZPGA	AQ09P8GE AQ09PBGE SH09ZPG SH09ZPGA	AQ07P8GE AQ07PBGE SH07ZPG SH07ZPGA	
1	DB92-00383A	ASSY PANEL FRONT TOTAL	ASSY	1	1	-	-	
	DB92-00414A	ASSY PANEL FRONT TOTAL	ASSY	-	-	1	1	
1-1	DB92-00392A	ASSY PANEL FRONT SUB	ASSY	1	1	-	-	
	DB92-00415A	ASSY PANEL FRONT SUB	ASSY	-	-	1	1	
1-1-1	DB92-00346A	ASSY PANEL FRONT	ASSY	1	1	-	-	
	DB92-00356A	ASSY PANEL FRONT	ASSY	-	-	1	1	
1-1-2	DB31-00166A	MOTOR STEPPING	-	1	1	1	1	
1-1-3	DB39-00780A	CONNECT WIRE-STEP MOTOR	-	1	1	-	-	
	DB39-00780D	CONNECT WIRE-STEP MOTOR	-	-	-	1	1	
1-1-4	DB61-01114A	HOLDER MOTOR DC	HIPS	1	1	-	-	
	DB61-01123A	HOLDER MOTOR DC	HIPS	-	-	1	1	
1-1-5	DB61-01115A	HINGE GRILLE	HIPS	1	1	-	-	
	DB61-01132A	HINGE GRILLE	HIPS	-	-	1	1	
1-1-6	DB61-01116A	GUIDE LINK	HIPS	1	1	-	-	
	DB61-01133A	GUIDE LINK	HIPS	-	-	1	1	
1-1-7	DB66-00364A	LINK MOTOR	ABS	1	1	-	-	
	DB66-00365A	LINK MOTOR	ABS	-	-	1	1	
1-2	DB64-00640A	GRILLE UP	ABS	1	1	-	-	
	DB64-00655A	GRILLE UP	ABS	-	-	1	1	
1-3	DB63-00585A	FILTER-AIR LF	PP	1	1	-	-	
	DB63-00590A	FILTER-AIR LF	PP	-	-	1	1	
1-4	DB63-00586A	FILTER-AIR RH	PP	1	1	-	-	
	DB63-00591A	FILTER-AIR RH	PP	-	-	1	1	
2	DB92-00388A	ASSY GRILLE LOW SUB	ASSY	1	1	-	-	
	DB92-00416C	ASSY GRILLE LOW SUB	ASSY	-	-	1	1	
3	DB96-02092B	ASSY EVAPORATOR	ASSY	1	1	-	-	
	DB96-02145A	ASSY EVAPORATOR	ASSY	-	-	1	1	
3-1	DB63-00667A	COVER DRAIN	PP	1	1	-	-	
	DB63-00716A	COVER DRAIN	PP	-	-	1	1	
4	DB95-00367C	ASSY FILTER BIO	ASSY	1	1	1	1	
5	DB63-00581A	COVER TERMINAL	HIPS	1	1	-	-	
	DB63-00588A	COVER TERMINAL	HIPS	-	-	1	1	
6	DB93-01452G	ASSY REMOCON	ASSY	1	1	1	1	
7	DB94-00256B	ASSY BACK BODY TOTAL	ASSY	1	1	-	-	
	DB94-00268B	ASSY BACK BODY TOTAL	ASSY	-	-	1	1	
7-1	DB94-00040R	ASSY CROSS FAN	ASSY	1	1	-	-	
	DB94-00040F	ASSY CROSS FAN	ASSY	-	-	1	1	
7-2	DB60-20011A	BOLT SPECIAL	-	1	1	1	1	
7-3	DB31-00152B	MOTOR-FAN IN	-	1	1	-	-	
	DB31-00152A	MOTOR-FAN IN	-	-	-	1	1	
7-4	DB94-00261B	ASSY BACK BODY SUB	ASSY	1	1	-	-	
	DB94-00269B	ASSY BACK BODY SUB	ASSY	-	-	1	1	
7-5	DB61-01099A	HOLDER-MOTOR	PP	1	1	-	-	
	DB61-01120A	HOLDER-MOTOR	PP	-	-	1	1	
7-6	DB63-00580A	COVER-IONIZER	HIPS	1	1	1	1	
7-7	DB73-00128A	BEARING MOLD	-	1	1	1	1	
7-8	DB94-40007A	BEARING	-	1	1	1	1	
7-9	DB93-01629A	ASSY IONIZER	ASSY	1	1	1	1	

No.	Code No.	Description	Specification	Q'TY				Remark
				AQ12PGGE AQ12PBGE	SH12ZPG SH12ZPGA	AQ09P8GE AQ09PBGE SH09ZPG SH09ZPGA	AQ07P8GE AQ07PBGE SH07ZPG SH07ZPGA	
7-10	DB93-01383D	ASSY CONNECTOR WIRE ION	-	1	1	-	-	
	DB93-01451A	ASSY CONNECTOR WIRE ION	-	-	-	1	1	
8	DB67-60030A	SPRING SENSOR	-	1	1	1	1	
9	DB70-00276A	HANGER PLATE	SGCC-M	1	1	-	-	
	DB70-00288A	HANGER PLATE	SGCC-M	-	-	1	1	Refer to 4-3
10	-	ASSY CONTROL IN	ASSY	1	1	1	1	
11	DB90-00992A	ASSY HOLDER-PIPE	ASSY	1	1	-	-	
	DB61-01121A	HOLDER-PIPE	HIPS	-	-	1	1	
12	DB94-00259A	ASSY TRAY DRAIN	ASSY	1	-	-	-	Option
	DB94-00259E	ASSY TRAY DRAIN	ASSY	1	-	-	-	
	DB94-00259B	ASSY TRAY DRAIN	ASSY	-	1	-	-	Option
	DB94-00265A	ASSY TRAY DRAIN	ASSY	-	-	1	1	
	DB94-00265D	ASSY TRAY DRAIN	ASSY	-	-	1	1	
12-1	DB94-00062E	ASSY HOSE DRAIN	ASSY	1	1	1	1	
12-2	DB61-01103A	BLADE-H	HIPS	1	1	-	-	
	DB61-01125A	BLADE-H	HIPS	-	-	1	1	
12-3	DB61-01104A	BLADE-V	PP	1	1	-	-	
	DB61-01126A	BLADE-V	PP	-	-	1	1	
12-4	DB63-00587A	TRAY DRAIN	HIPS	1	1	-	-	
	DB63-00592A	TRAY DRAIN	HIPS	-	-	1	1	
12-5	DB95-20138A	ASSY STEPPING MOTOR	ASSY	1	1	1	1	Option Option
12-6	DB63-00634A	GUARD-SAFETY WIRE	-	1	1	-	-	
	DB63-00635A	GUARD-SAFETY WIRE	-	-	-	1	1	

4-2 Outdoor Unit

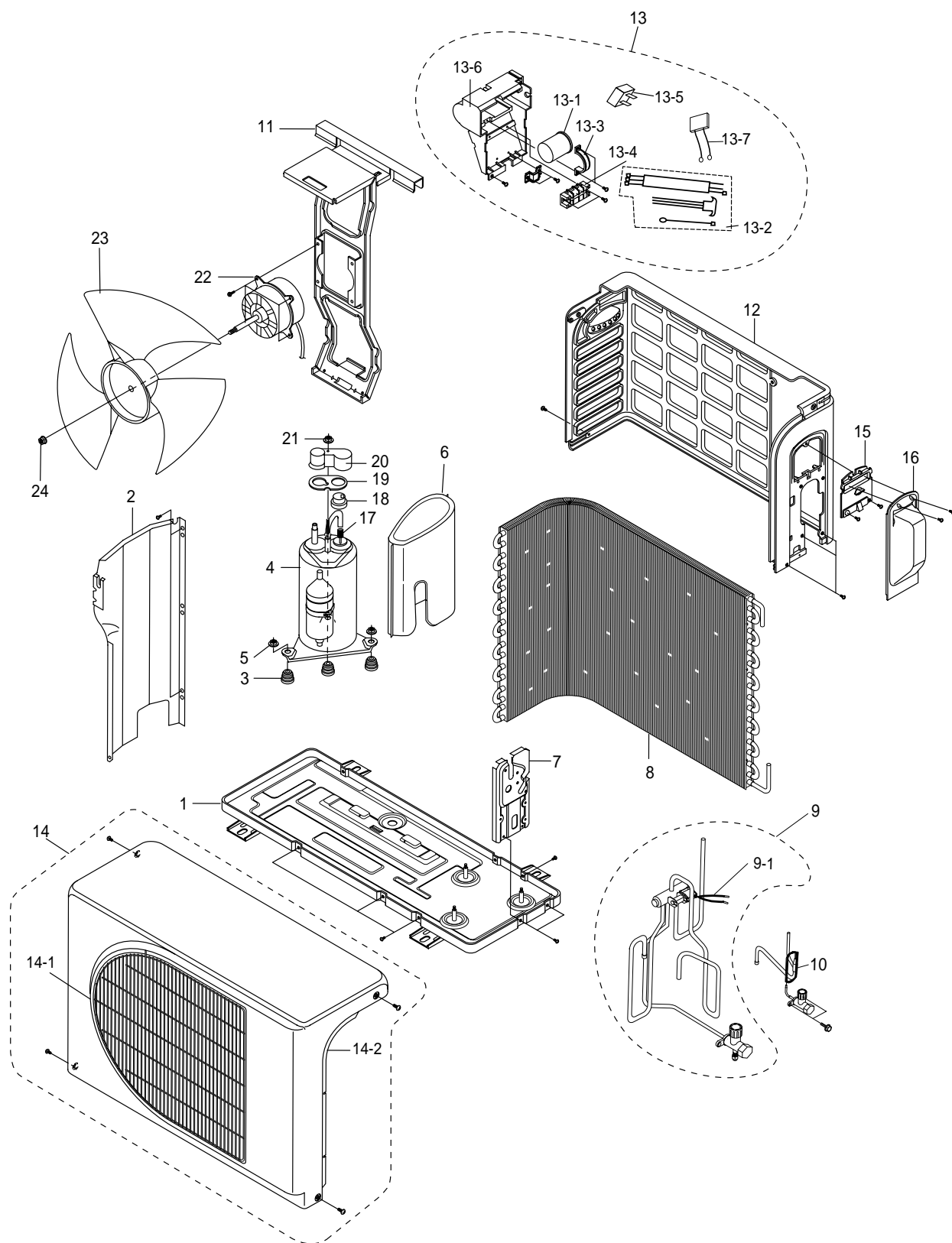
■ UQ12PGGE / SH12ZPGX / SH12ZPGAX / SH09ZPGX / SH09ZPGAX / SH07ZPGX / SH07ZPGAX



■ Outdoor Unit Parts List

No.	Code No.	Description	Specification	Q'TY			
				UQ12PGGE	SH12ZPGX SH12ZPGAX	SH09ZPGX SH09ZPGAX	SH07ZPGX SH07ZPGAX
1	DB60-30020A	NUT FLANGE	2C, M6, SM20C, NTR	1	1	1	1
2	DB67-50063A	FAN PROPELLER	AS+G/F 20%, ø405	1	1	1	1
3	DB31-10058C	MOTOR FAN OUT	220/240V, 50/60Hz	1	1	1	1
4	DB90-00904A	ASSY CABI FRONT	ASSY	1	-	1	1
	DB90-00904B	ASSY CABI FRONT	ASSY	-	1	-	-
4-1	DB64-00648A	CABI FRONT	PP	1	1	1	1
4-2	DB61-01113A	BELL MOUTH	PP	1	1	1	1
5	DB90-01057F	ASSY BASE OUTDOOR	ASSY	1	1	-	-
	DB90-01057E	ASSY BASE OUTDOOR	ASSY	-	-	1	1
5-1	DB90-01056C	ASSY BASE OUT	ASSY	1	1	-	-
	DB90-01056D	ASSY BASE OUT	ASSY	-	-	1	1
5-2	DB61-01322A	ASSY BRACKET VALVE	GA	1	1	1	1
5-3	DB94-00278A	ASSY BRACKET MOTOR	ASSY, SGCC-M	1	1	1	1
5-4	DB73-10004B	ASSY GROMMET ISOLATOR	SILICON	3	3	3	3
6	DB71-00085A	BAR STEEL	-	1	-	1	1
	DB71-00085B	BAR STEEL	-	-	1	-	-
7	DB90-00947A	ASSY COVER VALVE	ASSY	1	1	1	1
8	DB94-00303A	ASSY PARTITION	ASSY, SGCC-M	1	1	1	1
9	DB90-00914A	ASSY CABISIDE RH	ASSY	1	-	-	-
	DB90-00914B	ASSY CABISIDE RH	ASSY	-	1	-	-
	DB90-00914E	ASSY CABISIDE RH	ASSY	-	-	1	-
	DB90-00914D	ASSY CABISIDE RH	ASSY	-	-	-	1
9-1	DB64-00650A	CABISIDE RH	PP	1	1	1	1
9-2	2501-001236	CAPACITOR-COMP	30µF / 450VAC	1	1	-	1
	2501-001237	CAPACITOR-COMP	35µF / 450VAC	-	-	1	-
9-3	2301-001375	CAPACITOR-MOTOR	1.5µF / 450VAC	1	1	1	1
9-4	DB95-90026G	ASSY SPARK KILLER	ASSY	1	1	1	1
9-5	DB65-40049E	TERMINAL BLOCK	4P	1	1	1	1
9-6	DB93-01547A	ASSY LEAD WIRE	ASSY	1	1	1	1
9-7	DB35-00015H	OLP	RAC12074-9622	1	-	-	-
	DB35-00015R	OLP	RAC12123-9622	-	1	-	-
	DB35-00015B	OLP	RAC12054-9622	-	-	1	-
	DB35-00020A	OLP	RAC12144-9622	-	-	-	1
9-8	DB33-00028A	ASSY SOLENOID COIL	ASSY	1	1	1	1
10	DB90-01001A	ASSY CABINET SIDE LF	ASSY	1	-	1	1
	DB64-00649A	CABINET SIDE LF	PP	-	1	-	-
11	DB96-02414A	ASSY 4WAY VALVE	ASSY	1	-	-	-
	DB96-02415A	ASSY 4WAY VALVE	ASSY	-	1	-	-
	DB96-02416A	ASSY 4WAY VALVE	ASSY	-	-	1	1
12	DB96-02413A	ASSY CHECK VALVE	ASSY	1	-	-	-
	DB96-02413D	ASSY CHECK VALVE	ASSY	-	1	-	-
	DB96-02413B	ASSY CHECK VALVE	ASSY	-	-	1	-
	DB96-02413C	ASSY CHECK VALVE	ASSY	-	-	-	1
13	48D129JU1EL	COMPRESSOR	220~240V / 50Hz	1	-	-	-
	48D124JU1EL	COMPRESSOR	220~240V / 50Hz	-	1	-	-
	44B092JX1EL	COMPRESSOR	220~240V / 50Hz	-	-	1	-
	44B080JX1EL	COMPRESSOR	220~240V / 50Hz	-	-	-	1
14	DB60-30028A	NUT WASHER	HEX2CM8ZPC	3	3	3	3
15	DB63-20002A	GASKET	SILICON	1	1	1	1
16	DB63-10165D	COVER TERMINAL	PBT	1	1	1	1
17	DB60-30018A	NUT FLANGE	M5, SM20C	1	1	1	1
18	DB96-02104A	ASSY CONDENSER	ASSY	1	-	1	1
	DB96-02236A	ASSY CONDENSER	ASSY	-	1	-	-

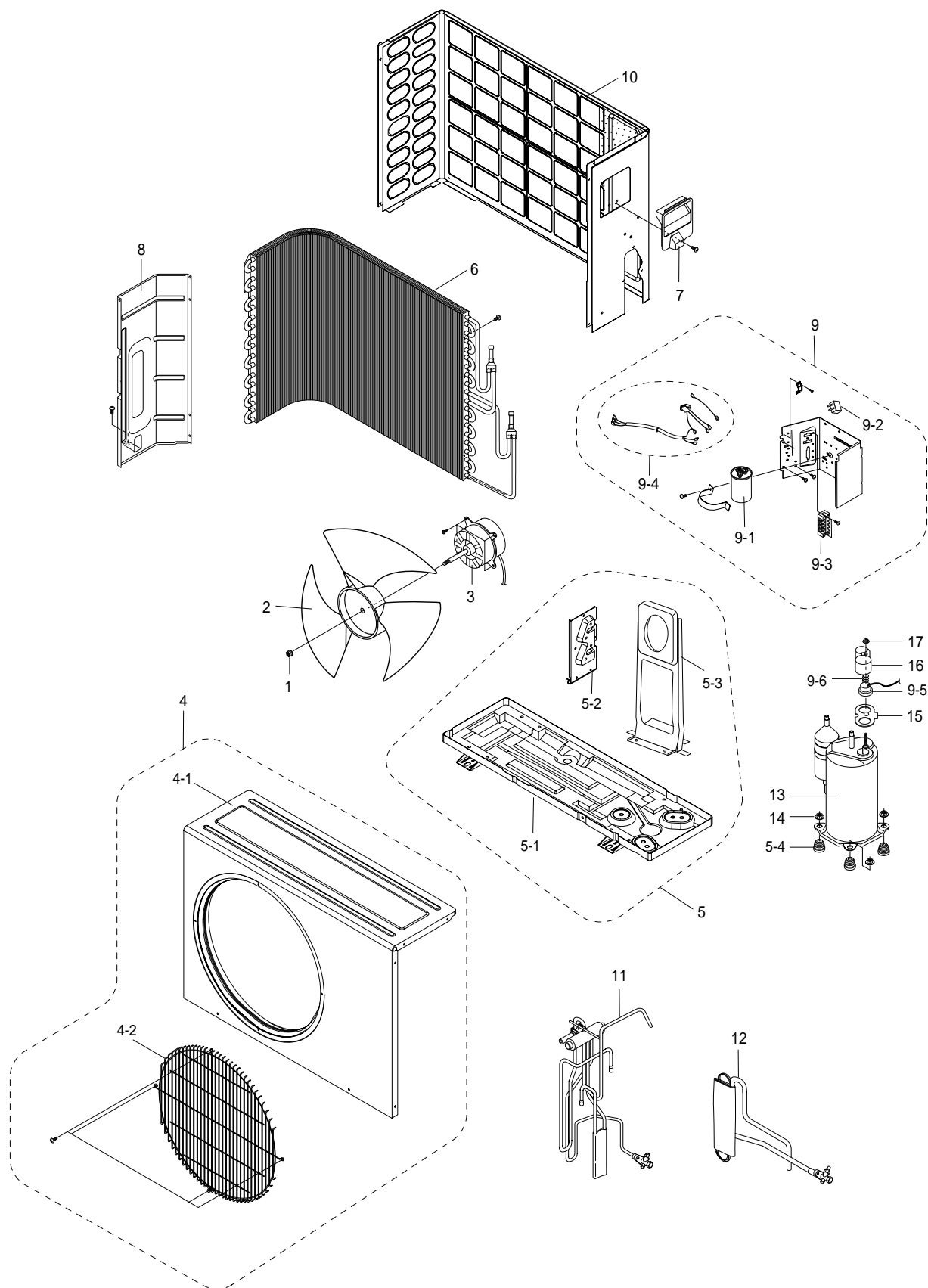
■ UQ09P8GE / UQ07P8GE



■ Outdoor Unit Parts List

No.	Code No.	Description	Q'TY	
			UQ09P8GE	UQ07P8GE
1	DB90-00262A	ASSY BASE OUT	1	1
2	DB94-00271A	ASSY PARTITION; 7K,9K	1	1
3	DB73-10004B	GROMMET ISOLATOR(SILICON)	3	3
4	44B102JX1EL	ROTARY COMP	1	-
	44B080JX1EL	ROTARY COMP	-	1
5	DB60-30028A	NUT WASHER	3	3
6	DB72-00453A	CLOTH COMP SOUND	1	1
7	DB61-00793A	BRACKET VALVE	1	1
8	DB96-02142A	ASSY CONDENSER	1	-
	DB96-02472A	ASSY CONDENSER	-	1
9	DB99-00277A	ASSY 4WAY VALVE	1	1
9-1	DB33-00002B	ASSY SOLENOID COIL	1	1
10	DB96-02470A	ASSY TUBE CAPILLARY	1	-
	DB96-02470B	ASSY TUBE CAPILLARY	-	1
11	DB90-00110A	ASSY BRACKET MOTOR	1	1
12	DB90-00109C	ASSY CABI SIDE	1	1
13	DB93-00666C	ASSY CONTROL OUT(9K 2 Stage OLP)	1	-
	DB93-00666D	ASSY CONTROL OUT(7K 2 Stage OLP)	-	1
13-1	2501-001238	C OIL;40μF, 450VAC	1	-
	2501-001236	C OIL;30μF, 450VAC	-	1
13-2	DB93-00481D	ASSY-LEAD WIRE 2 Stage OLP	1	1
13-3	DB61-01102A	HOLDER CAPACITOR	1	1
13-4	DB65-40049E	TERMINAL BLOCK;4P	1	1
13-5	2301-001375	C FILM;1.5μF, 450VAC	1	1
13-6	DB61-01196A	CASE CONTROL OUT	1	1
13-7	DB95-90026G	ASSY-SPARK KILLER	1	1
14	DB90-00108F	ASSY CABI FRONT	1	1
14-1	DB63-00099A	GUARD FAN WIRE	1	1
14-2	DB64-00086A	CABINET FRONT	1	1
15	DB90-00152A	ASSY COVER CONTROL	1	1
16	DB94-00021A	ASSY COVER VALVE	1	1
17	DB67-60020A	SPRING OLP	1	1
18	DB35-00020G	PROTECTOR O/L; RAC12110-9622, 2 Stage OLP	1	-
	DB35-00020A	PROTECTOR O/L; RAC12144-9622, 2 Stage OLP	-	1
19	DB63-20002A	GASKET;EPDM	1	1
20	DB63-10165D	COVER TERMINAL	1	1
21	DB60-30018A	NUT FLANGE	1	1
22	DB31-00034A	MOTOR FAN OUT	1	1
23	DB67-00036A	FAN PROPELLER	1	1
24	DB60-30020A	NUT FLANGE	1	1

■ UQ12PBGE / UQ09PBGE / UQ07PBGE



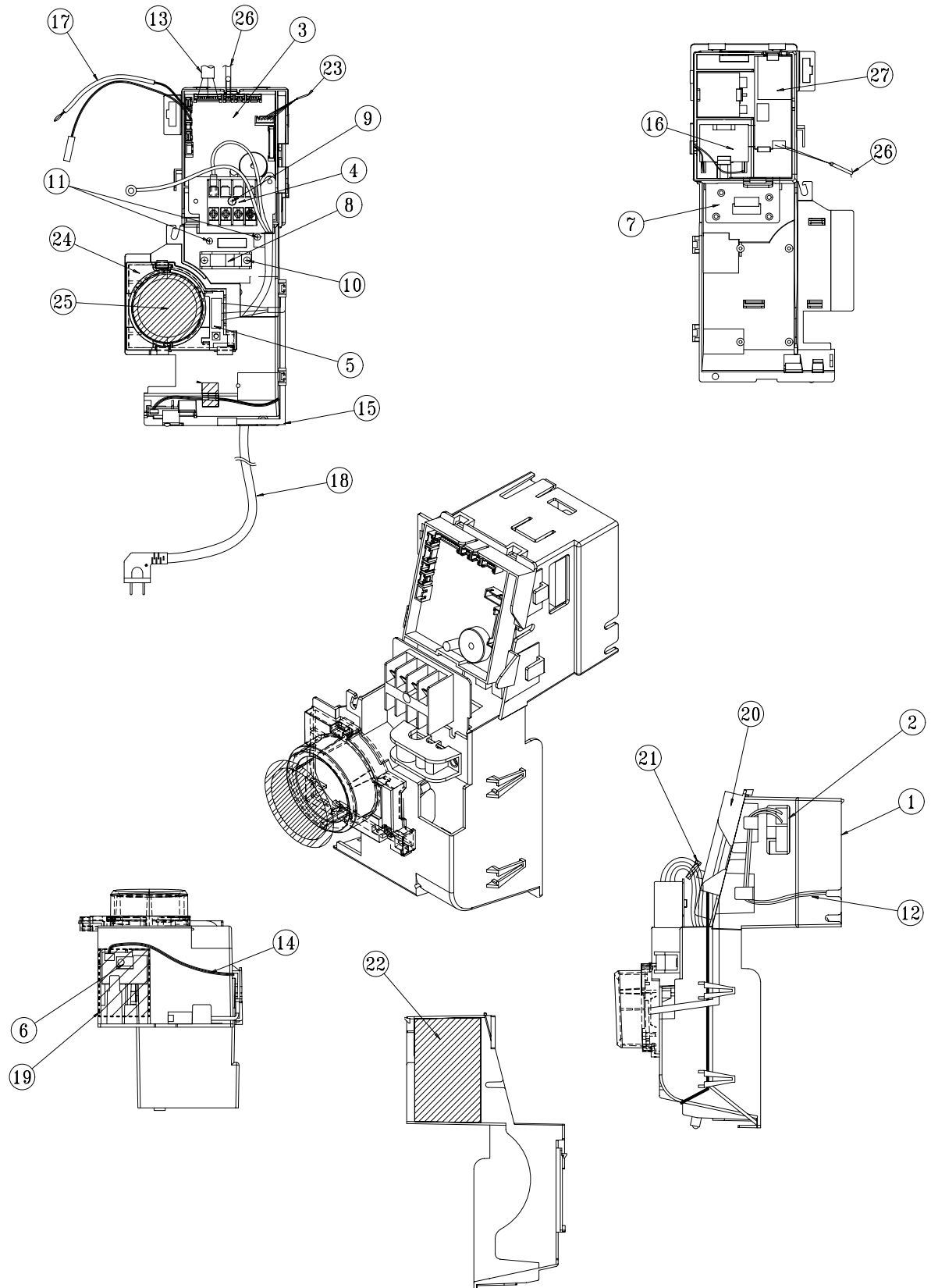
■ Outdoor Unit Parts List

No.	Code No	Description	Specification	Q'TY		
				UQ12PBGE	UQ09PBGE	UQ07PBGE
1	DB60-30020A	NUT FLANGE	2C SM20C M6 NTR	1	1	1
2	DB67-50063A	PROPELLER-FAN	AS+G/F,ø405	1	1	1
3	DB31-10058C	MOTOR FAN OUT	220/240V, 60/50HZ	1	1	1
4	DB90-00633E	ASSY CABI FRONT	ASSY	1	1	1
4-1	DB64-00439A	CABINET FRONT	SECC-P, T0.8	1	1	1
4-2	DB63-00385B	GUARD FAN	HSWR, OD2.0	1	1	1
5	DB90-00687D	ASSY BASE OUTDOOR	ASSY	1	-	-
	DB90-00687C	ASSY BASE OUTDOOR	ASSY	-	1	1
5-1	DB90-00635B	ASSY BASE OUT	ASSY	1	-	-
	DB90-00635A	ASSY BASE OUT	ASSY	-	1	1
5-2	DB90-00887A	BRACKET VALVE	SECC-P, T1.6	1	1	1
5-3	DB61-00802A	BRACKET MOTOR	SGCC-M, T1.2	1	1	1
5-4	DB73-00067A	GROMMET-ISOLATOR	NR	3	-	-
	DB73-00070A	GROMMET-ISOLATOR	NR	-	3	3
6	DB96-01461A	ASSY COND	ASSY	1	-	-
	DB96-01614A	ASSY COND	ASSY	-	1	1
7	DB63-10443C	COVER-E, PARTS	ABS	1	1	1
8	DB94-00163A	ASSY PARTITION	ASSY	1	-	-
	DB94-00163B	ASSY PARTITION	ASSY	-	1	1
9	DB93-01741A	ASSY CONTROL OUT	ASSY	1	-	-
	DB93-01741B	ASSY CONTROL OUT	ASSY	-	1	-
	DB93-01741C	ASSY CONTROL OUT	ASSY	-	-	1
9-1	2501-001236	CAPACITOR COMP	30μF 450VAC	1	-	1
	2501-001238	CAPACITOR COMP	40μF 450VAC	-	1	-
9-2	2301-001375	CAPACITOR MOTOR	1.5μF 450VAC	1	1	1
9-3	DB65-40049E	TERMINAL BLOCK	4P, (N1), 1, 2, 3, AWG16	1	1	1
9-4	DB93-00481A	ASSY LEAD WIRE	ASSY	1	1	1
9-5	DB35-00015H	OLP	RAC12074-9622	1	-	-
	DB35-00020G	OLP	RAC12110-9622	-	1	-
	DB35-00020A	OLP	RAC12144-9622	-	-	1
9-6	DB67-60020A	OLP SPRING	STS304	1	1	1
10	DB90-00634A	CABINET SIDE	ASSY(BENDING)	1	1	1
11	DB96-02567A	ASSY TUBE 4WAY VALVE	ASSY	1	-	-
	DB96-02642A	ASSY TUBE 4WAY VALVE	ASSY	-	1	1
12	DB96-00157A	ASSY TUBE CAPILLARY	ASSY	1	-	-
	DB96-01547Q	ASSY TUBE CAPILLARY	ASSY	-	1	-
	DB96-01547R	ASSY TUBE CAPILLARY	ASSY	-	-	1
13	48D129JU1EL	COMPRESSOR	220-240V/50HZ	1	-	-
	44B102JX1EL	COMPRESSOR	220-240V/50HZ	-	1	-
	44B080JX1EL	COMPRESSOR	220-240V/50HZ	-	-	1
14	DB60-30028A	NUT-WASHER	HEX 2C MB ZPC	3	3	3
15	DB63-20002A	GASKET	EPDM	1	1	1
16	DB63-10165D	COVER TERMINAL	PBT	1	1	1
17	DB60-30018A	NUT-FLANGE	M5, SM20C	1	1	1

4-3 Ass'y Control In (Indoor Unit)

■ SH12ZPG : DB93-01613A

SH12ZPGA / AQ12PGGE / AQ12PBGE : DB93-01613C

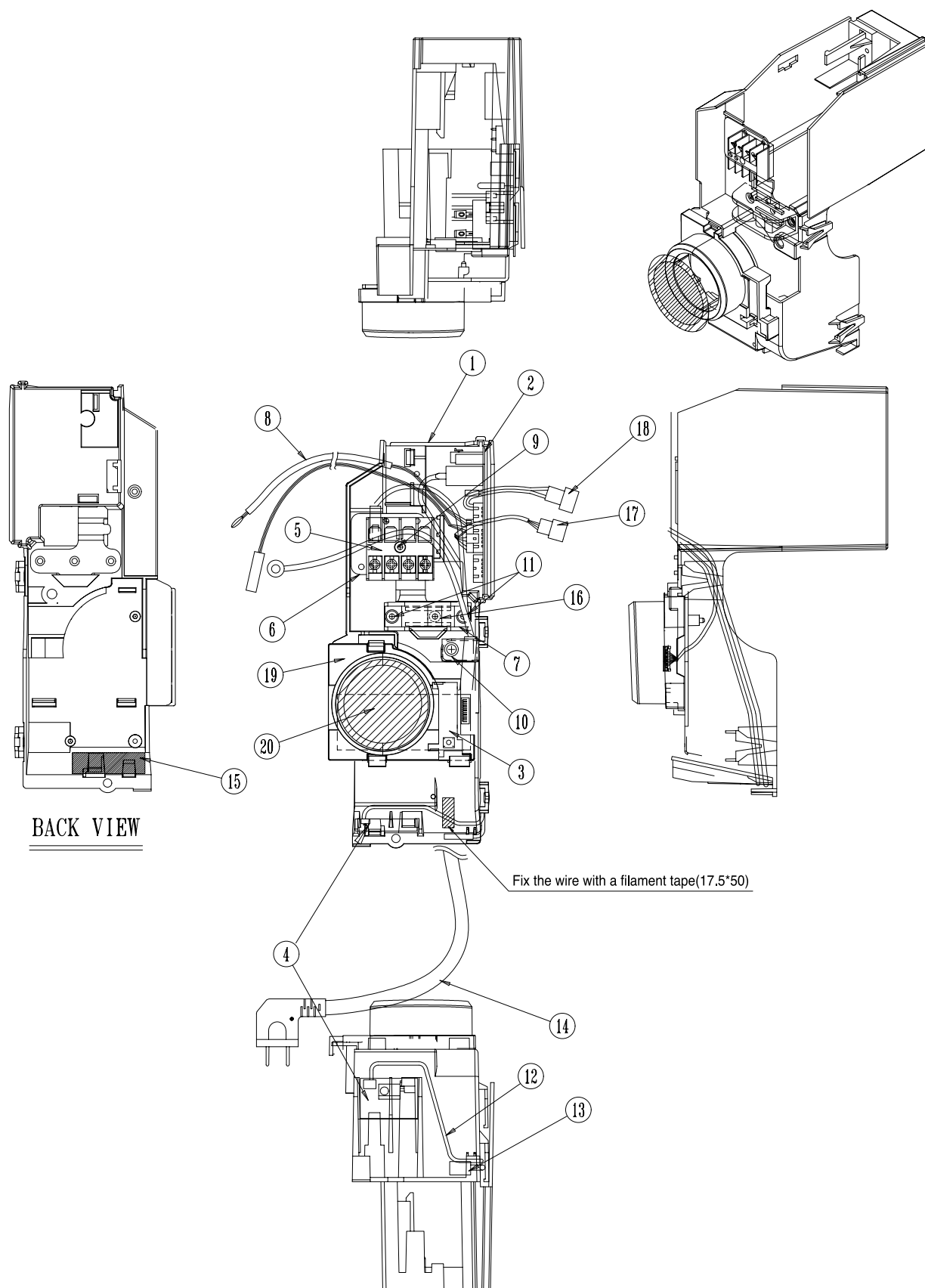


■ Parts List

No.	Code No.	Description	Specification	Q'TY		Remark
				SH12ZPG	SH12ZPGA AQ12PBGE AQ12PGGE	
1	DB61-01105A	CASE-CONTROL AC	ABS	1	1	
2	DB93-01324A	ASSY-MAIN PCB (AC)	ASSY	1	1	
3	DB93-01325B	ASSY-MAIN PCB (DC)	ASSY	1	1	
4	DB65-00103A	ASSY-TERMINAL BLOCK	ASSY	1	1	
5	DB93-01368D	ASSY-S/W & DISPLAY PCB	ASSY	1	-	
	DB93-01368C	ASSY-S/W & DISPLAY PCB	ASSY	-	1	
6	DB93-01369A	ASSY-MODULE PCB	ASSY	1	1	
7	DB70-00277A	PLATE-TERMINAL LOW	SGCC-M, T1.2	1	1	
8	DB61-00171A	HOLDER-WIRE CLAMP	ABS	1	1	
9	-	SCREW-MACHINE	PH M3 x L22	1	1	SNA
10	-	SCREW-MACHINE	TH M4 x L16	2	2	SNA
11	-	SCREW-MACHINE	TH M4 x L10	2	2	SNA
12	DB93-01386A	ASSY-C/W MOTOR CAPACITOR	ASSY	1	1	
13	DB93-01384A	ASSY-C/W AC/DC CONNECTION	ASSY	1	1	
14	DB93-01380A	ASSY-C/W MODULE PCB	ASSY	1	1	
15	DB39-00643F	C/W STEP MOTOR UP/DOWN	ASSY	1	1	
16	2301-001377	CAPACITOR	1.2uF,450VAC	1	1	
17	DB32-00020G	ASSY-THERMISTOR	4P (103AT)	1	1	
18	DB93-01549A	POWER CORD	3G,1.0mm ²	1	1	
19	-	SEAL	61x40x3,30FOAM-PE,GRAY	1	1	SNA
20	DB61-01106A	CASE CONTROL(DC)	HIPS V0	1	1	
21	-	CABLE TIE	DA-140	1	1	SNA
22	-	SEAL	95x60x1,FOAM-LEX,T1.0,BLK	1	1	SNA
23	DB39-00780B	ASSY C/W AUTO GRILLE	ASSY	1	1	
24	DB61-01110A	HOLDER-DISPLAY	HIPS,V0,WHT	1	1	
25	DB64-00763A	HALF MIRROR	95,T1.5	1	1	
26	DB39-00866A	ASSY C/W HVPS	ASSY	-	-	
27	DB93-01387A	ASSY PCB HVPS	DC12V/DC4.7KV	-	-	

■ SH09ZPG / SH07ZPG : DB93-01635A

SH09ZPGA / AQ09P8GE / AQ09PBGE / SH07ZPGA / AQ07P8GE / AQ07PBGE : DB93-01635D

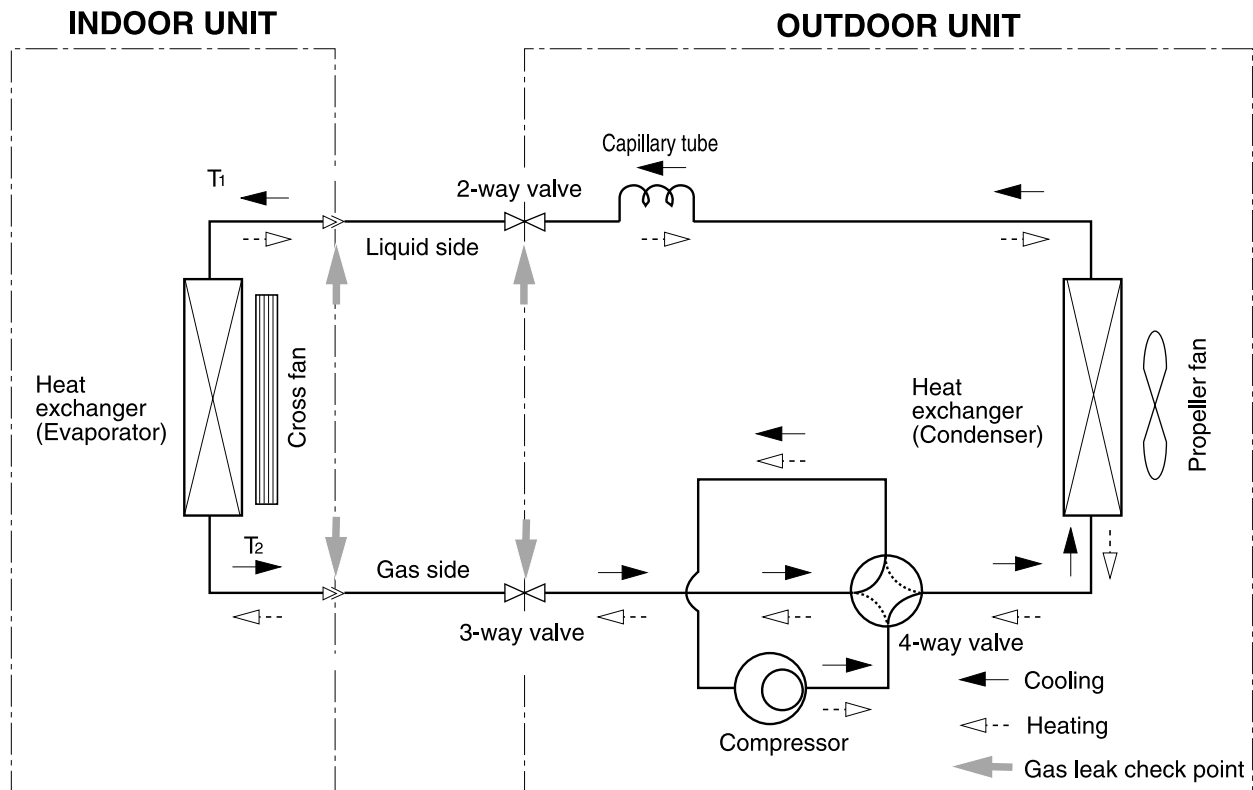


■ Parts List

No.	Code No.	Description	Specification	Q'TY		Remark
				SH09ZPG/SH07ZPG	SH09ZPGA/SH07ZPGA AQ09P8GE/AQ07P8GE AQ09PBGE/AQ07PBGE	
1	DB61-01127A	CASE-CONTROL AC	ABS	1	1	
2	DB93-01347C	ASSY-MAIN PCB	ASSY	1	1	
3	DB93-01368B	ASSY-S/W & DISPLAY PCB	ASSY	1	-	
	DB93-01368A	ASSY-S/W & DISPLAY PCB	ASSY	-	1	
4	DB93-01369A	ASSY-MODULE PCB	ASSY	1	1	
5	DB65-00103B	ASSY-TERMINAL BLOCK	ASSY	1	1	
6	DB70-00289A	PLATE-TERMINAL LOW	SGCC-M,T1.2	1	1	
7	DB61-00171A	HOLDER-WIRE CRAMP	HIPS	1	1	
8	DB32-00020A	ASSY-THERMISTOR	ASSY	1	1	
9	-	SCREW-MACHINE	PH M3xL22	1	1	SNA
10	-	SCREW-MACHINE	TH M4xL10	1	1	SNA
11	-	SCREW-MACHINE	TH M4xL16	2	2	SNA
12	DB93-01380B	C/W MODULE	ASSY	1	1	
13	DB39-00643M	C/W STEP MOTOR UP/DOWN	ASSY	1	1	
14	DB93-01549B	POWER CORD	3G, 1.0mm ²	1	1	
15	-	SEAL	61x40x3,30FOAM-PE,GRAY	1	1	SNA
16	-	SCREW-MACHINE	PH M4x10	1	1	SNA
17	DB39-00780B	C/W STEPPING MOTOR	ASSY(AUTO GRILLE)	1	1	
18	DB39-00820A	C/W ION-PCB	ASSY	1	1	
19	DB61-01110A	HOLDER-DISPLAY	ABS	1	1	
20	DB64-00763A	HALF MIRROR	95, T1.5	1	1	

5. Block Diagrams

5-1 Refrigerating Cycle Block Diagram



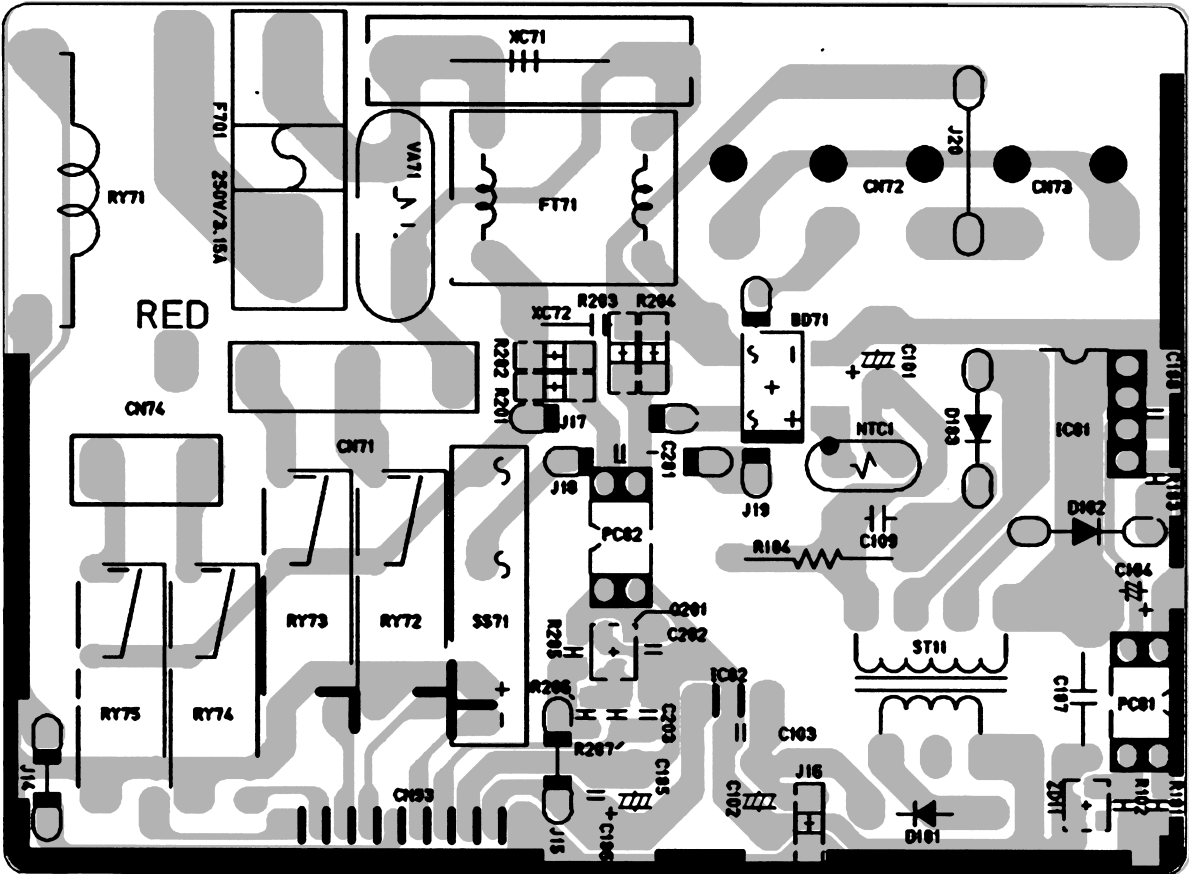
6-1 MAIN PCB (12K-AC) : DB93-01324A

	OPT11	OPT12	OPT13	OPT14	OPT15	OPT16 (XC71)
DB93-01324A	○	○	×	×	×	220nF/250V
DB93-01324B	×	×	×	×	×	220nF/250V
DB93-01324C	○	○	○	×	○	220nF/250V
DB93-01324D	○	×	○	×	○	220nF/250V
DB93-01324E	○	○	○	○	○	220nF/250V
DB93-01324F	○	×	○	○	○	220nF/250V

■ Parts List

No	Location No.	Description	Specification	Q'TY	Remark
1	C101	C-AL	10uF,20%,450V,GP,TP,10x20mm,5	1	SNA
2	C102	C-AL	470uF,20%,25V,GP,TP,10x16,5	1	SNA
3	C104	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA
4	C105	C-AL	470uF,20%,16V,GP,TP,10x12.5,5	1	SNA
5	C107	C-CERAMIC,DISC	2.2nF,20%,400V,Y5U,TP,12.5x6,10	1	SNA
6	C109	C-CERAMIC,DISC	100nF,20%,1KV,TP,6	1	SNA
7	XC71	C-FILM,MPEF	220NF,10%,275V,BK,26.5x8.5x17MM,22.5	1	SNA
8	XC72	C-FILM,MPEF	100nF,10%,275V,BK,18x6x12,15	1	SNA
9	FT71	CHOKE-COIL	LS404190M,AS-S660,19MH,+50,-30%,300MOHM,2A,-,-,-	1	SNA
10	CN71	CONNECTOR-HEADER	1WALL,3P/5P,1R,3.96mm,STRAIGHT,SN	1	SNA
11	CN72	CONNECTOR-HEADER	1WALL,5P,1R,3.96mm,ANGLE,SN	1	SNA
12	CN73	CONNECTOR-HEADER	1WALL,2P/3P,1R,3.96mm,ANGLE,SN	1	SNA
13	CN74	CONNECTOR-HEADER	1WALL,3P,1R,3.96mm,STRAIGHT,SN	1	SNA
14	CN93	CONNECTOR-HEADER	BOX,10P,1R,-,STRAIGHT,SN	1	SNA
15	D101	DIODE-RECTIFIER	UG2D,200V,2A,DO-204AC,TP	1	SNA
16	D103	DIODE-RECTIFIER	UF4007,1KV,1A,DO-41,TP	1	SNA
17	D102	DIODE-SWITCHING	1N4148,100V,200mA,DO-35,TP	1	SNA
18	F701	FUSE-CARTRIDGE	250V,3.15A,TIME-LAG,GLASS,5x20mm	1	SNA
19	IC01	IC-PWM CONTROLLER	VIPER12ADIP,DIP,8P,300MIL,PLASTIC	1	SNA
20	IC02	IC-VOLT REGU	78L05A,TO-92,3P,-,PLASTIC,4.6/	1	SNA
21	PC01	PHOTO-COUPLER	TR,130-260%,200mW,DIP-4,ST	1	SNA
22	PC02	PHOTO-COUPLER	TR,50-150%,200mW,DIP-4,ST	1	SNA
23	RY72,RY73,RY74,RY75	RELAY-MINIATURE	DC12V,3A 250V AC,-,-,10MS,10MS	4	SNA
24	RY71	RELAY-POWER	12VDC,0.9W,75mA,SPST,MAX 20msec,10mS	1	SNA
25	R104	R-METAL OXIDE(S)	91Kohm,5%,2W,AA,TP,4x12mm	1	SNA
26	SS71	SSR	12Vdc,-,2A,1mS,1mS	1	SNA
27	NTC1	THERMISTOR-NTC	22ohm,1.4A,3100K,9.5MW/C,-,7.0,-	1	SNA
28	ST11	TRANS	S/W TRANS;-G-P/J,EE1916-V10,-,-,-	1	SNA
29	VA71	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA

■ BOTTOM

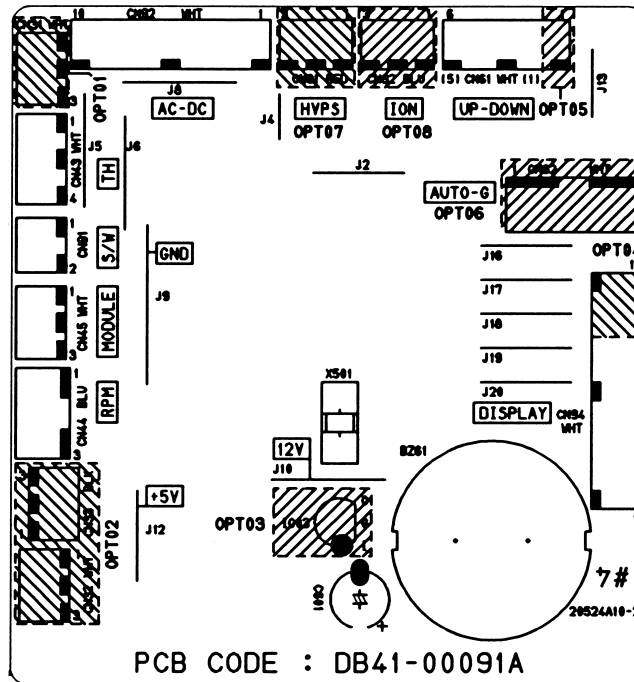


■ Parts List

No	Location No.	Description	Specification	Q'TY	Remark
1	BD71	DIODE-BRIDGE	DF06S,600V,1A,SMD-4,TP	1	SNA
2	C103,C106,C108,C201	C-CERAMIC,CHIP	100nF,+80-20%,50V,Y5V,TP,2012,	4	SNA
3	C202,C203	C-CERAMIC,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	2	SNA
4	Q201	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	1	SNA
5	R101	R-CHIP	100ohm,5%,1/10W,DA,TP,2012	1	SNA
6	R102	R-CHIP	2.2Kohm,5%,1/10W,DA,TP,2012	1	SNA
7	R103	R-CHIP	6.8ohm,5%,1/10W,DA,TP,2012	1	SNA
8	R201,R202,R203,R204	R-CHIP	100Kohm,5%,1/4W,DA,TP,3216	4	SNA
9	R205	R-CHIP	10Kohm,5%,1/10W,DA,TP,2012	1	SNA
10	R206,R207	R-CHIP	1Kohm,5%,1/10W,DA,TP,2012	2	SNA
11	ZD11	DIODE-ZENER	BZX84-C11,10.4-11.6V,350MW,SOT-23,TP	1	SNA

MAIN PCB (12K-DC) : DB93-01325B

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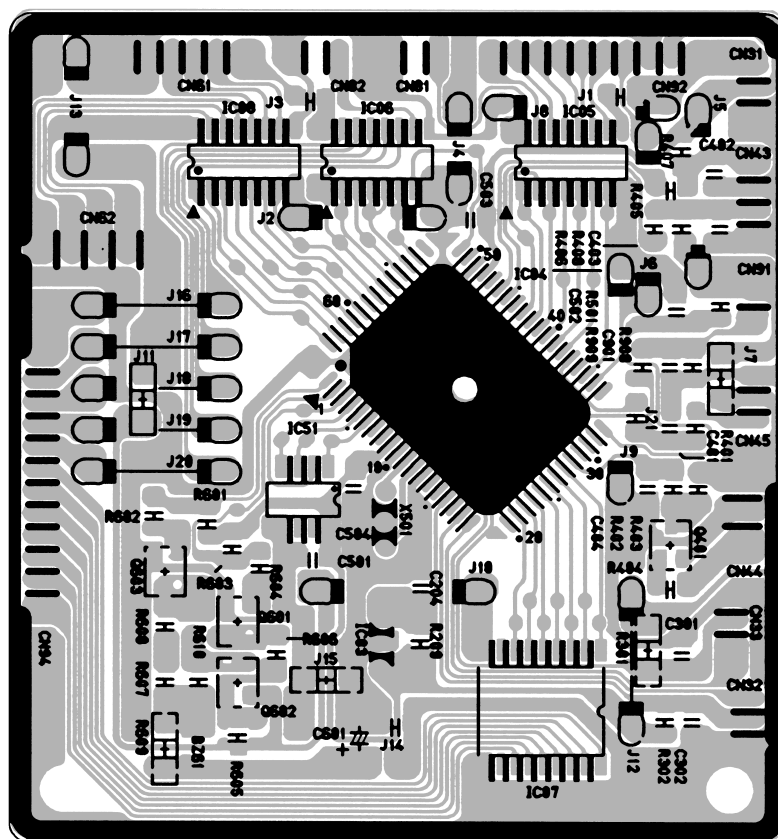


ASS'Y PCB	OPT01	OPT02	OPT03	OPT04 (CN94)	OPT05 (CN61)	OPT06	OPT07	OPT08
DB93-01325A	×	×	×	SMW200-09(WHT)	SMW200-05(WHT)	×	×	×
DB93-01325B	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	×	○
DB93-01325C	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	○	○
DB93-01325E	×	×	×	SMW200-09(WHT)	SMW200-06(WHT)	×	×	×
DB93-01325F	×	×	×	SMW200-12(WHT)	SMW200-06(WHT)	○	×	○
DB93-01325G	×	×	×	SMW200-12(WHT)	SMW200-06(WHT)	○	○	○
DB93-01325J	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	○	×
DB93-01325K	×	×	×	SMW200-12(WHT)	SMW200-05(WHT)	○	×	×
DB93-01325L	×	×	×	SMW200-12(WHT)	SMW200-06(WHT)	○	○	×

■ Parts List

No	Location No.	Description	Specification	Q'TY	Remark
1	BZ61	BUZZER-PIEZO	BUZZER-PIEZO;80DB,9V ,-,2.0KHZ,-	1	SNA
2	X501	RESONATOR-CERAMIC	10MHz,0.5%,TP,10.0x5.0x8.0mm	1	SNA
3	C601	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA
4	CN31	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN	1	SNA
5	CN32	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN	1	SNA
6	CN33	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN	1	SNA
7	CN43	CONNECTOR-HEADER	BOX,4P,1R,2MM,STRAIGHT,SN	1	SNA
8	CN44	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,STRAIGHT,SN	1	SNA
9	CN45	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN	1	SNA
10	CN61	CONNECTOR-HEADER	BOX,5P,1R,2MM,STRAIGHT,SN	1	SNA
11	CN62	CONNECTOR-HEADER	BOX,5P,1R,2.5mm,STRAIGHT,SN	1	SNA
12	CN81	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN,RED	1	SNA
13	CN82	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN,BLU	1	SNA
14	CN91	CONNECTOR-HEADER	BOX,2P,1R,2mm,STRAIGHT,SN	1	SNA
15	CN92	CONNECTOR-HEADER	BOX,10P,1R,-,STRAIGHT,SN	1	SNA
16	CN94	CONNECTOR-HEADER	BOX,12P,1R,2mm,STRAIGHT,SN	1	SNA
17	IC03	IC-VOLTAGE	7533,TO-92,3P,-,SINGLE,-,-,PLA	-	SNA

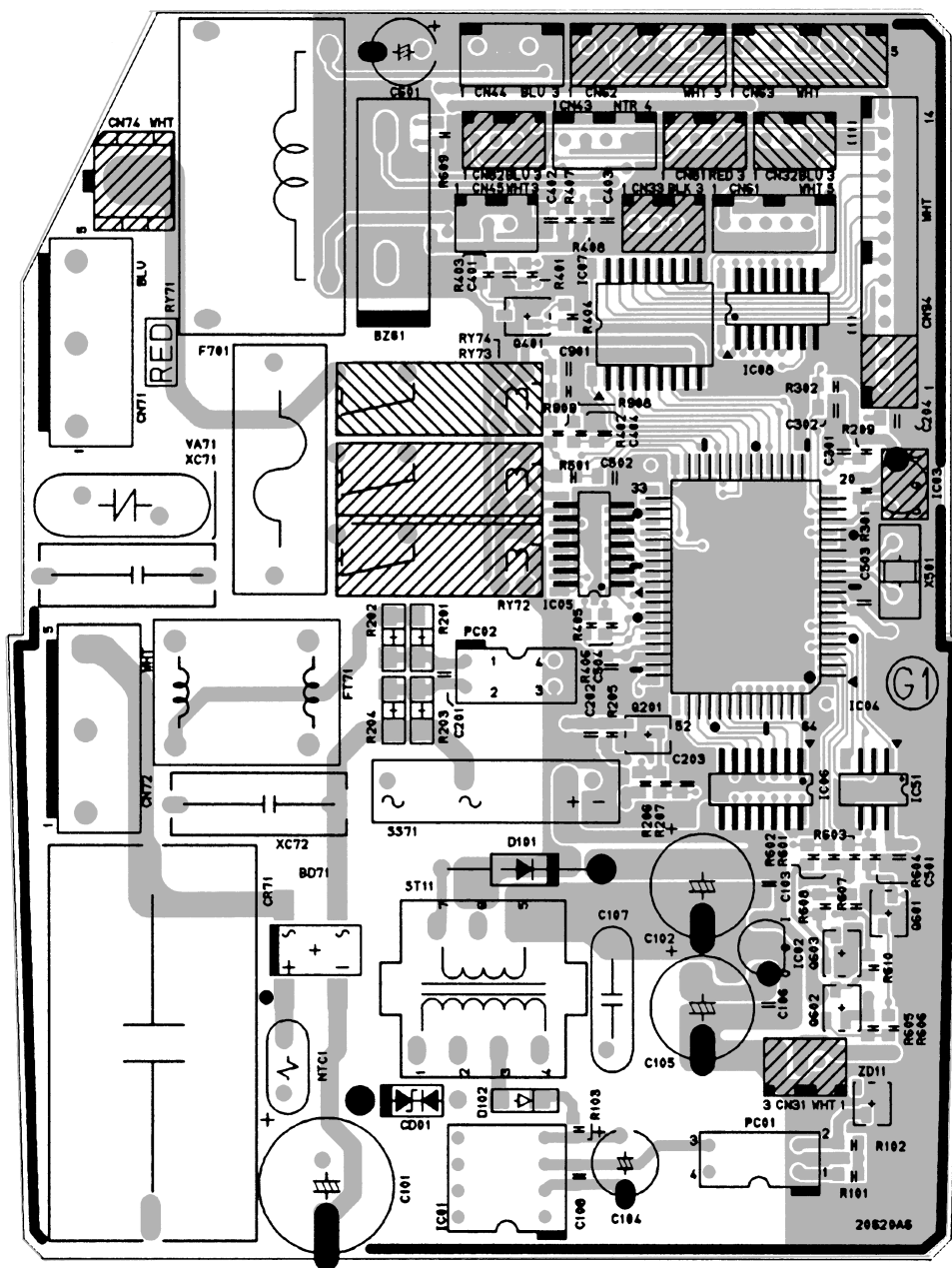
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■ Parts List

No	Location No.	Description	Specification	Q'TY	Remark
1	C204,C301,C302,C402,C403 C501,C502,C503,C504,C901	C-CERAMIC,CHIP	100nF,+80-20%,50V,Y5V,TP,2012	10	SNA
2	C401	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,2012,-	1	SNA
3	C404	C-CERAMIC,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA
4	IC04	IC-MICOM	S3C8489XZZ-QTR5,-.64,+5V,10MHZ,STM-0219-O	1	SNA
5	IC05,IC06,IC08	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	3	SNA
6	IC07	IC-SOURCE DRIVER	TD62783AFW,SOL,18P,-.8,-500MA,TP,	1	SNA
7	IC51	IC-EEPROM	93LC56,128x16Bit,SOP,8P,150MIL,-.2,5V,-,	1	SNA
8	Q401,Q601,Q603	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	3	SNA
9	Q602	TR-SMALL SIGNAL	MMST2907A,PNP,200mW,SOT-23,TP,100-	1	SNA
10	R209,R301,R302,R401,R402 R404,R602,R604,R610	R-CHIP	1Kohm,5%,1/10W,DA,TP,2012	9	SNA
11	R403,R407,R408	R-CHIP	6.8Kohm,5%,1/10W,DA,TP,2012	3	SNA
12	R405,R406	R-CHIP	330ohm,5%,1/10W,DA,TP,2012	2	SNA
13	R501,R601,R603,R605,R908	R-CHIP	10Kohm,5%,1/10W,DA,TP,2012	5	SNA
14	R606,R909	R-CHIP	4.7Kohm,5%,1/10W,DA,TP,2012	2	SNA
15	R607,R608	R-CHIP	470ohm,5%,1/10W,DA,TP,2012	2	SNA
16	R609	R-CHIP	560ohm,5%,1/10W,DA,TP,2012	1	SNA

■ TOP



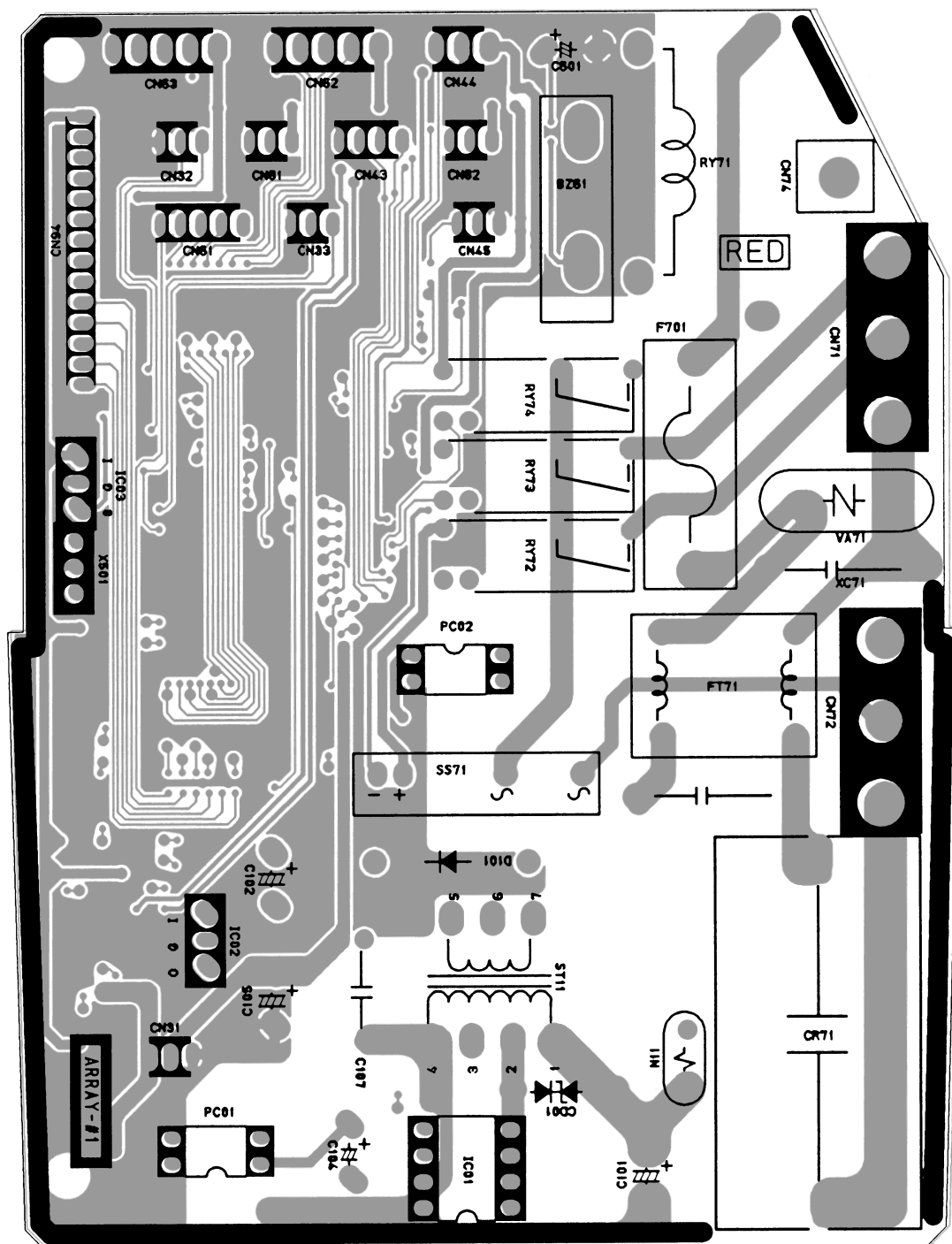
DL NAME CODE NO.	OPT01	OPT02	OPT03	OPT04	OPT05	OPT06	OPT07	OPT08	OPT09	OPT10	OPT11
	RY72/ RY73	RY74 CN74	CN81	CN82	CN62	CN63	IC03	CN32	CN33	CN31	CN94
DB93-01347A	○	×	×	×	×	×	×	×	×	×	SMW200-11
DB93-01347B	×	×	×	○	×	×	×	×	×	×	SMW200-11
DB93-01347C	○	×	×	○	○	×	×	×	×	×	SMW200-14
DB93-01347D	○	×	○	○	○	×	×	×	×	×	SMW200-14
DB93-01347E	○	○	×	○	○	×	×	×	×	×	SMW200-14
DB93-01347F	×	×	×	○	○	×	×	×	×	×	SMW200-14
DB93-01347G	×	×	○	○	○	×	×	×	×	×	SMW200-14
DB93-01347H	×	○	×	○	○	×	×	×	×	×	SMW200-14
DB93-01347J	×	×	×	×	○	×	×	×	×	×	SMW200-14
DB93-01347K	×	×	×	×	○	×	×	×	×	×	SMW200-14

■ Parts List

No	Location No.	Description	Specification	Q'TY	Remark
1	BD71	DIODE-BRIDGE	DF06S,600V,1A,SMD-4,TP	1	SNA
2	BZ61	BUZZER	80DB,9V,-,2.0KHZ,-,26.5x22.0x7.0mm	1	SNA
3	C101	C-AL	10uF,20%,450V,GP,TP,13X20mm,5	1	SNA
4	C102	C-AL	470uF,20%,25V,GP,TP	1	SNA
5	C103,C106,C108,C201, C204,C301C302,C402, C403,C501,C502,C503, C504,C901	C-CERAMIC,DISC	100nF,+80-20%,50V,Y5V,TP,2012,	12	SNA
6	C104,C601	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	2	SNA
7	C105	C-AL	470uF,20%,16V,GP,TP	1	SNA
8	C107	C-CERAMIC,DISC	2.2nF,20%,400V,Y5U,TP,12.5x6,10	1	SNA
9	C202,C203,C404	C-CERAMIC,DISC	10nF,+80-20%,50V,Y5V,TP,2012	3	SNA
10	C401	C-CERAMIC,DISC	1nF,10%,50V,X7R,TP,2012,-	1	SNA
11	CD01	DIODE-TVS	ST02D-200,185/200/215V,200W,DO-214	1	SNA
12	CN31,CN32,CN33	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN	3	SNA
13	CN43	CONNECTOR-HEADER	BOX,4P,1R,2MM,STRAIGHT,SN	1	SNA
14	CN44	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,STRAIGHT,SN	1	SNA
15	CN45	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN	1	SNA
16	CN61	CONNECTOR-HEADER	BOX,5P,1R,2MM,STRAIGHT,SN	1	SNA
17	CN62,CN63	CONNECTOR-HEADER	BOX,5P,1R,2.5mm,STRAIGHT,SN	2	SNA
18	CN71	CONNECTOR-HEADER	1WALL,3P/5P,1R,3.96mm,STRAIGHT,SN	1	SNA
19	CN72	CONNECTOR-HEADER	1WALL,3P/5P,1R,3.96mm,STRAIGHT	1	SNA
20	CN74	CONNECTOR-TERMINAL	PIN,MALE,#18-22,2.35mm	1	SNA
21	CN81	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN,RED	1	SNA
22	CN82	CONNECTOR-HEADER	BOX,3P,1R,2MM,STRAIGHT,SN,BLU	1	SNA
23	CN94	CONNECTOR-HEADER	BOX,11P,1R,2mm,STRAIGHT,SN	1	SNA
24	CN94	CONNECTOR-HEADER	BOX,14P,1R,2mm,STRAIGHT,SN	1	SNA
25	CR71	C-FILM,MPPF	1.2uF,10%,450Vac,BK,38x18x30,3	1	SNA
26	D101	DIODE-RECTIFIER	UG2D,200V,2A,DO-204AC,TP	1	SNA
27	D102	DIODE-SWITCHING	RSL4148,100V,200mA,DO-35,TP	1	SNA
28	F701	FUSE-CARTRIDGE	250V,3.15A,TIME-LAG,GLASS,5x20mm	1	SNA
29	F701	FUSE-BLOCK	500V,-,100M	1	SNA
30	FT71	LS404190M	AS-S660,19MH,+50,-30%,-,300MOHM,2A,-,-,-	1	SNA
31	IC01	IC-PWM CONTROLLER	VIPER12ADIP,DIP,8P,300MIL,PLASTIC	1	SNA
32	IC02	IC-POS1 ADJUST REG	78L05A,TO-92,3P,-,PLASTIC,4.6/	1	SNA
33	IC03	IC-VOLTAGE	COMP,7533,TO-92,3P,-,SINGLE,-,-,-,PLA	1	SNA
34	IC04	IC-MICOM	S3C8489XZZ-QTR5,-,64,+5V,10MHZ,STM-0219-O	1	SNA
35	IC05,IC06,IC08	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	3	SNA
36	IC07	IC-SOURCE DRIVER	TD62783AFW,SOL,18P,-,8,-500MA,TP,	1	SNA

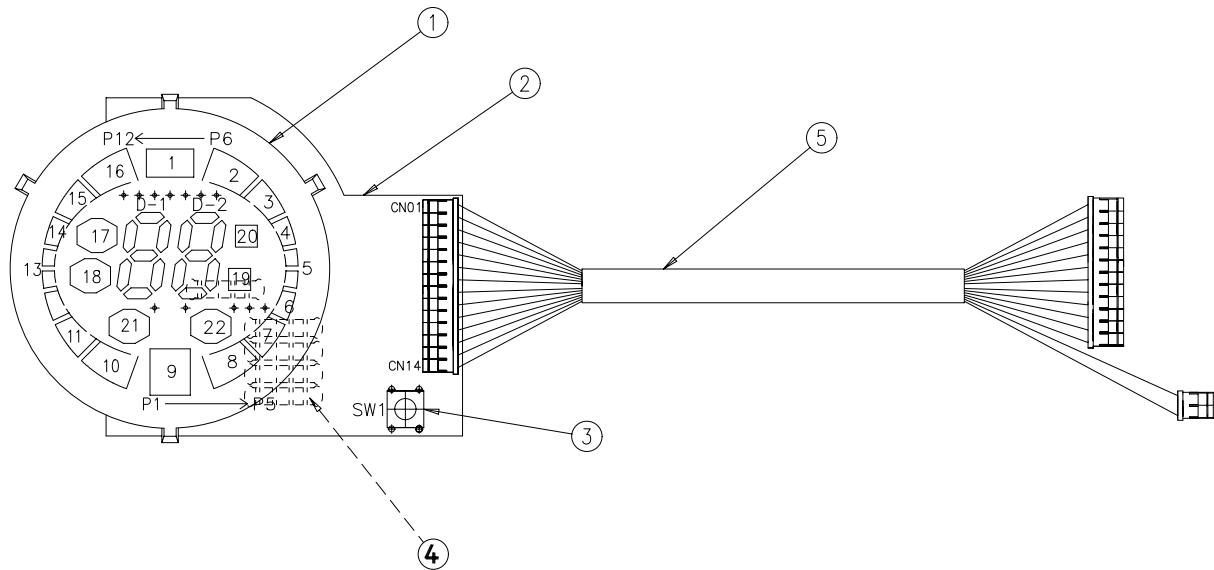
■ Parts List(cont.)

No	Location No.	Description	Specification	Q'TY	Remark
37	IC51	IC-EEPROM	93LC56,128x16Bit,SOP,8P,150MIL,-,2.5V,-,	1	SNA
38	NTC1	THERMISTOR-NTC	22ohm,1.4A,3100K,9.5MW/C,-,7.0,-	1	SNA
39	PC01	PHOTO-COUPLER	TR,130-260%,200mW,DIP-4,ST	1	SNA
40	PC02	PHOTO-COUPLER	TR,50-150%,200mW,DIP-4,ST	1	SNA
41	Q201,Q401,Q601,Q603	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	4	SNA
42	Q602	TR-SMALL SIGNAL	MMST2907A,PNP,200mW,SOT-23,TP,100-	1	SNA
43	R101	R-CHIP	100ohm,5%,1/8W,DA,TP,2012	1	SNA
44	R102	R-CHIP	2.2Kohm,5%,1/8W,DA,TP,2012	1	SNA
45	R103	R-CHIP	6.8ohm,5%,1/8W,DA,TP,2012	1	SNA
46	R201,R202,R203,R204	R-CHIP	100Kohm,5%,1/4W,DA,TP,3216	4	SNA
47	R205,R501,R601,R603, R605,R908	R-CHIP	10Kohm,5%,1/8W,DA,TP,2012	6	SNA
48	R206,R207,R209,R301, R302R401,R402,R404, R602,R604,R610	R-CHIP	1Kohm,5%,1/8W,DA,TP,2012		SNA
49	R403	R-CHIP	6.8Kohm,5%,1/8W,DA,TP,2012	1	SNA
50	R405,R406	R-CHIP	330ohm,5%,1/8W,DA,TP,2012	2	SNA
51	R407,R408	R-CHIP	6.8Kohm,1%,1/8W,DA,TP,2012	2	SNA
52	R606,R909	R-CHIP	4.7Kohm,5%,1/8W,DA,TP,2012	2	SNA
53	R607,R608	R-CHIP	470ohm,5%,1/8W,DA,TP,2012	2	SNA
54	R609	R-CHIP	560ohm,5%,1/8W,DA,TP,2012	1	SNA
55	RY71	RELAY-POWER	12VDC,0.9W,75mA,SPST,MAX 20msec,10mS	1	SNA
56	RY72,RY73	RELAY-POWER	DC12V,3A 250V AC,-,-,10MS,10MS	2	SNA
57	RY74	RELAY-POWER	DC12V,3A 250V AC,-,-,10MS,10MS	1	SNA
58	SS71	SSR	12Vdc,-,2A,1mS,1mS	1	SNA
59	ST11	TRANS SWITCHING-S	W TRANS;- ,W-P/J,-,-,-,-,-,-,-,-,	1	SNA
60	VA71	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA
61	X501	RESONATOR-CERAMIC	10MHz,0.5%,TP,10.0x5.0x8.0mm	1	SNA
62	XC71	C-FILM,MPPF	100nF,10%,275V,BK,18x6x12,15	1	SNA
63	XC72	C-FILM,MPPF	220nF,10%,275V,BK,18x12x6,18	1	SNA
64	ZD11	DIODE-ZENER	BZX84-C11,10.4-11.6V,350MW,SOT-23,TP	1	SNA



6-3 ASS'Y DISPLAY PCB

■ 12K/9K/7K : DB93-01368*

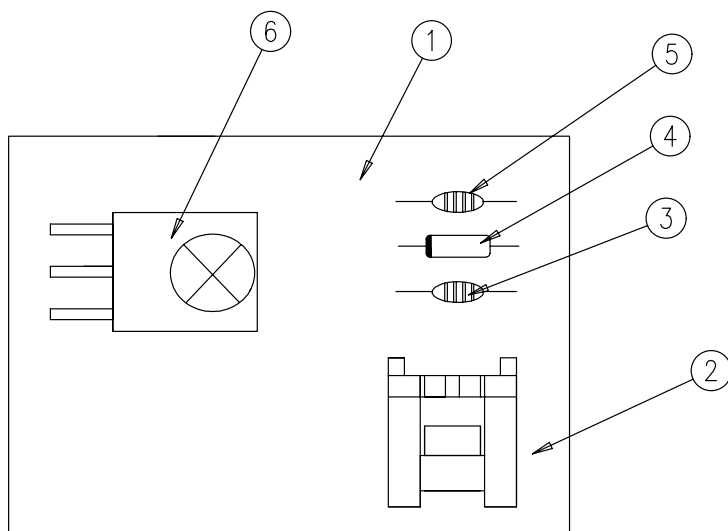


Code No.	Model Name	Remark
DB93-01368A	SH09/07ZPGA/AQ09/07P*GE	
DB93-01368B	SH09/07ZPG	
DB93-01368C	SH12ZPGA/AQ12PGGE/AQ12PBGE	
DB93-01368D	SH12ZPG	

■ Parts List

No	Description	Specification	Q'TY	Remark
1	ASSY LED MODULE		1	SNA
2	PCB-DISPLAY	FR-1 T1.6	1	SNA
3	TACT SWITCH	KPT-1105A	1	SNA
4	RESISTOR	200ohm, 2W	5	SNA
5	CONNECTOR WIRE	14P	1	SNA

6-4 ASS'Y MODULE PCB : DB93-01369A



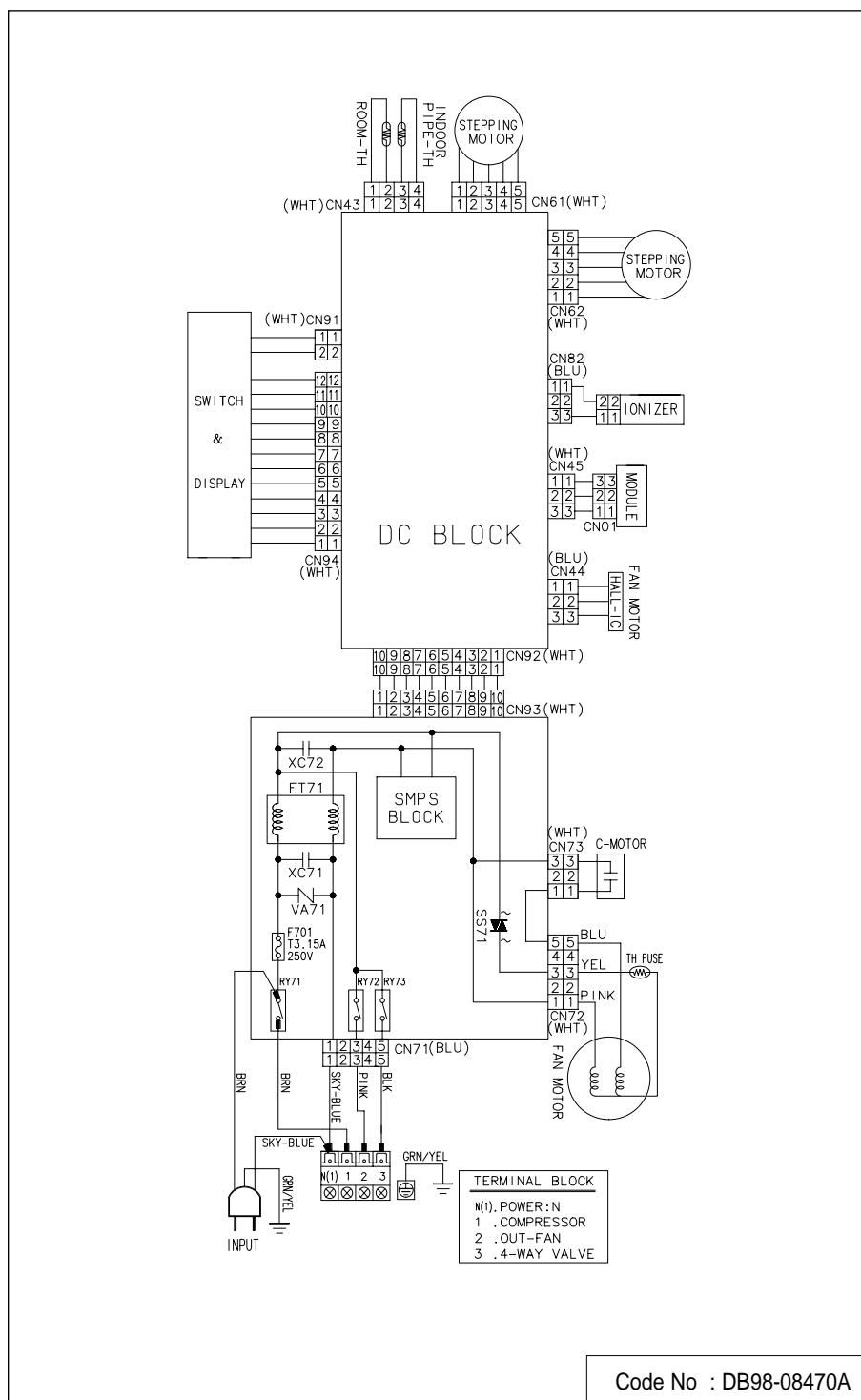
■ Parts List

No	Description	Specification	Q'TY	Remark
1	PCB MODULE	FR1 T1.6	1	SNA
2	CONNECTOR-HEADER	BOX, 3P, 1R, 2mm, ANGLE, SN	1	SNA
3	C-CERAMIC, MLC-AXIAL	1nF, 10%, 50V, Y5P, TP, 1.9 x 3.5, -	1	SNA
4	DIODE-SWITCHING	1N4148, 100V, 200mA, DO-35, TP	1	SNA
5	C-CERAMIC, MLC-AXIAL	100nF, +80-20%, 50V, Y5V, TP, 3.5 x 1	1	SNA
6	MODULE	FRP4021H7	1	SNA

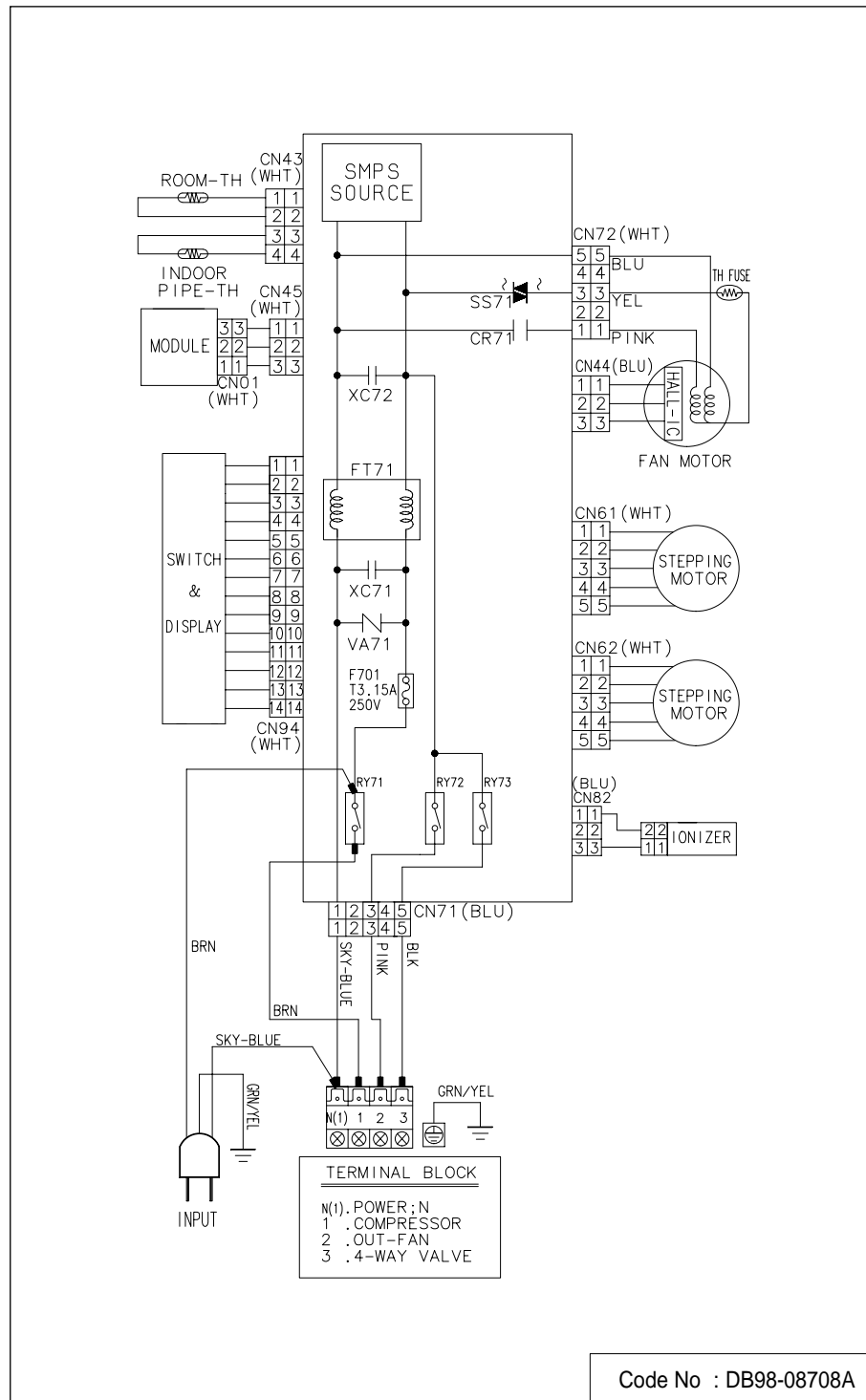
7. Wiring Diagrams

7-1 Indoor Unit

7-1-1 12K BTU

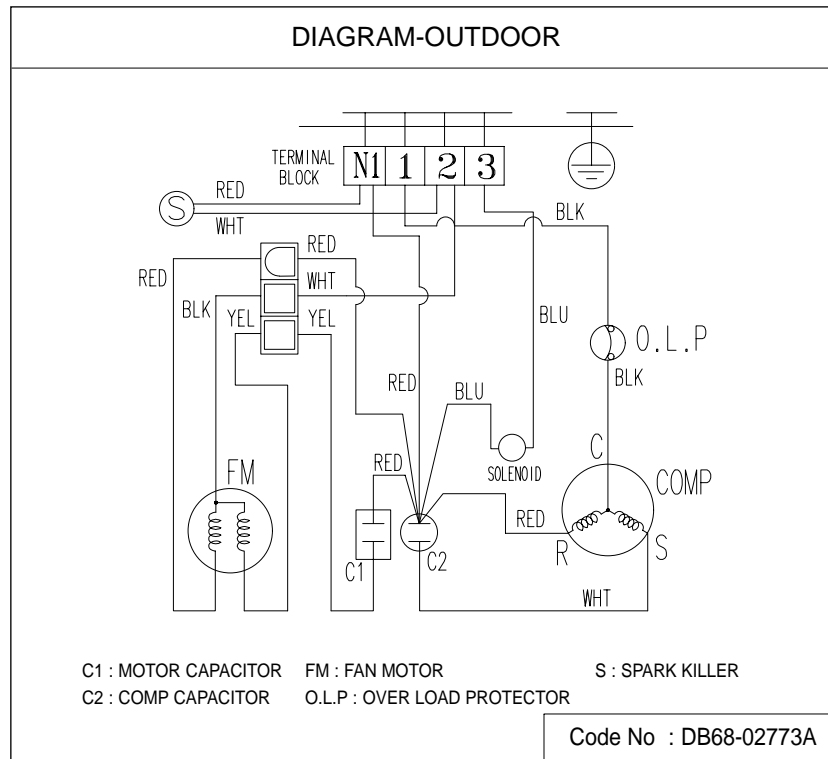


7-1-2 9K BTU/7K BTU

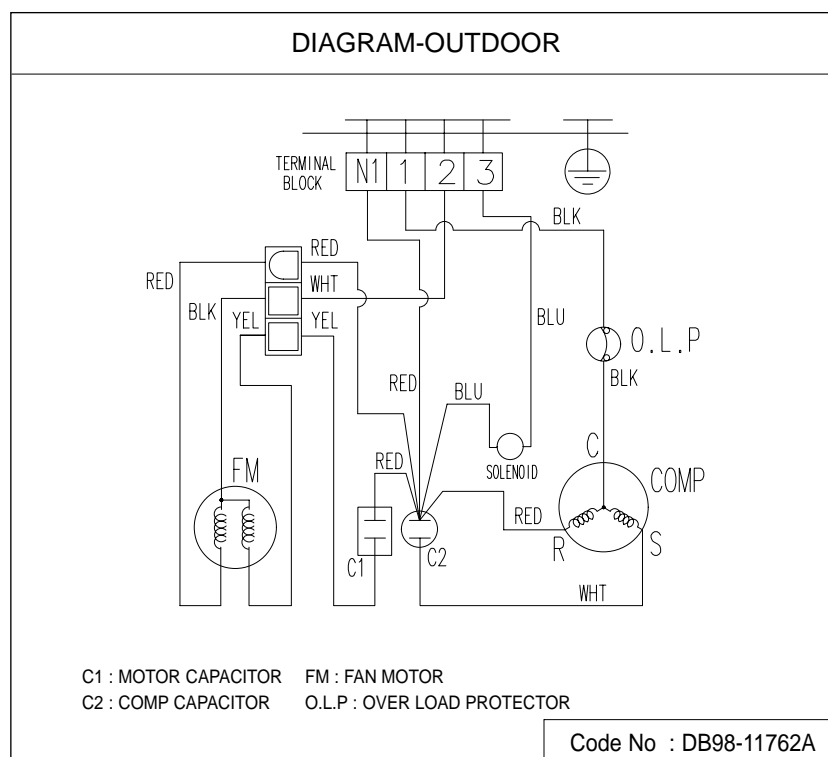


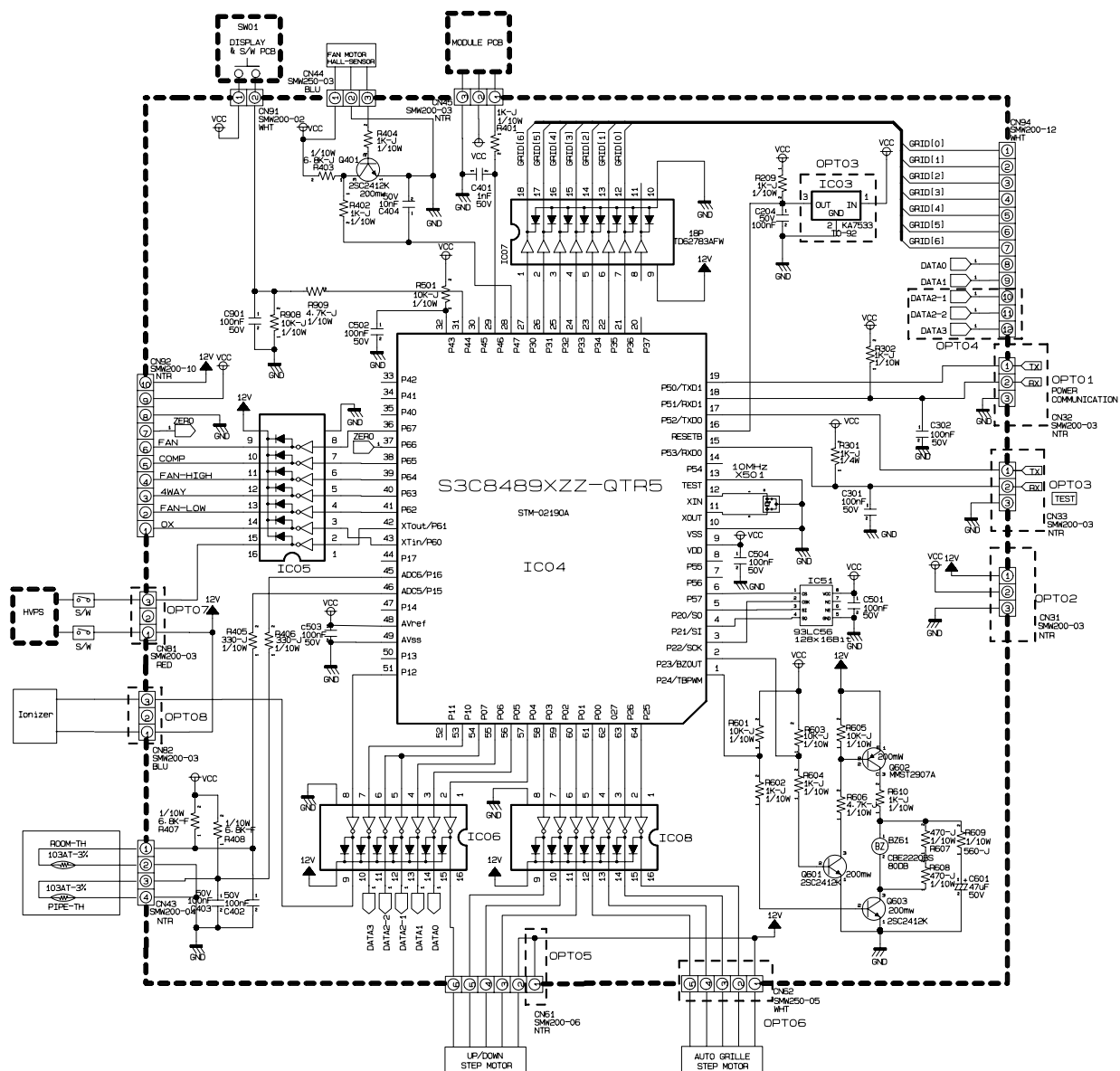
7-2 Outdoor Unit

7-2-1 PLASTIC OUTDOOR UNIT

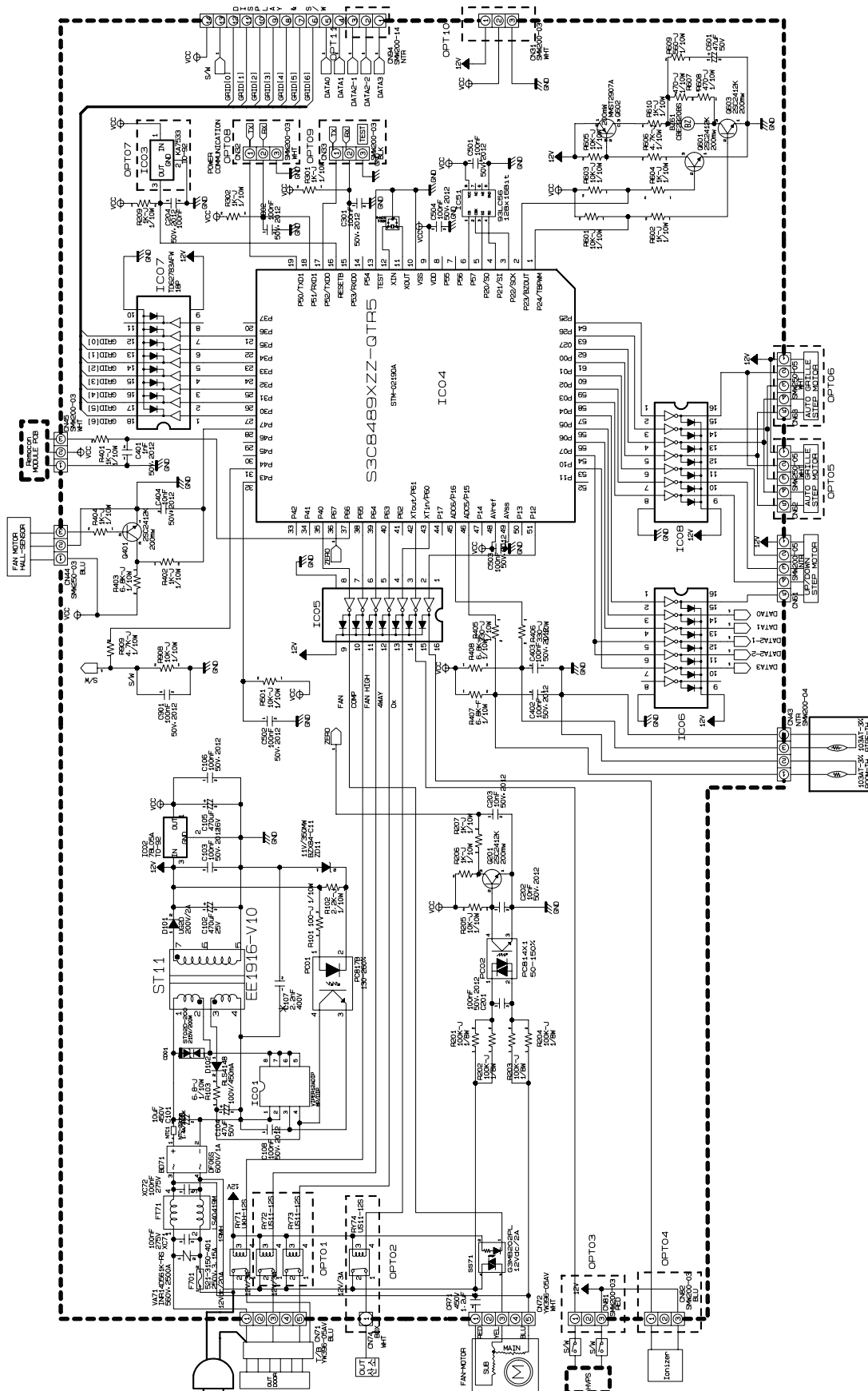


7-2-2 STEEL OUTDOOR UNIT





8-1-3 9K BTU/7K BTU (MAIN PART)



MEMO

MEMO

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And if you need more information, please see the service website.

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